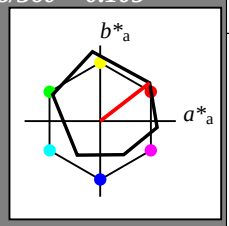
Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

relative Natural Colour (NC)

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

relative Natural Colour (NC)

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

relative Natural Colour (NC)

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

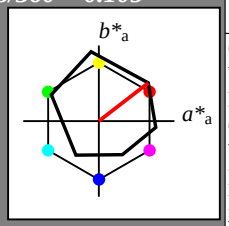
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

relative Natural Colour (NC)

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

relative Natural Colour (NC)

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

relative Natural Colour (NC)

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

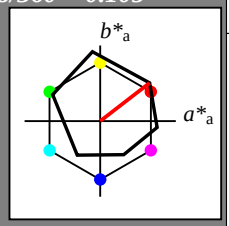
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

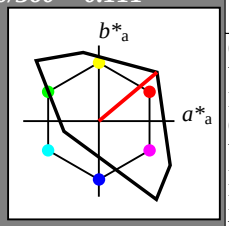
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 40/360 = 0.111
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

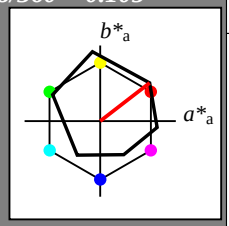
3 step scales for constant CIELAB hue 40/360 = 0.111 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

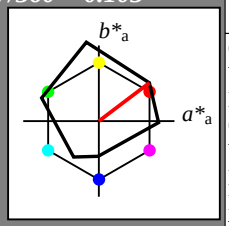
*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 37/360 = 0.103
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

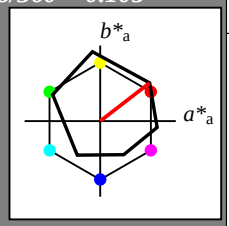
3 step scales for constant CIELAB hue 37/360 = 0.103 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

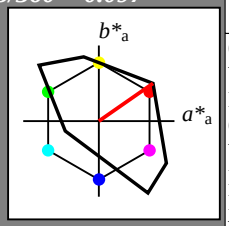
chromaticness c^*

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 35/360 = 0.097
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

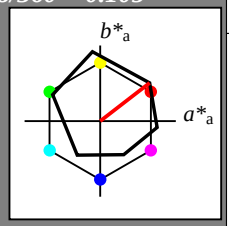
3 step scales for constant CIELAB hue 35/360 = 0.097 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

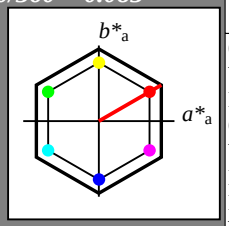
chromaticness c^*

Output: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

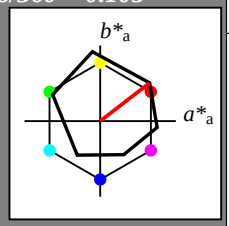
3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

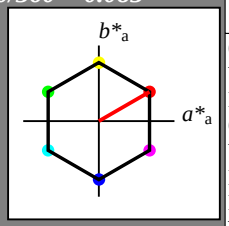
chromaticness c^*

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

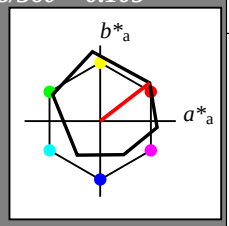
3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

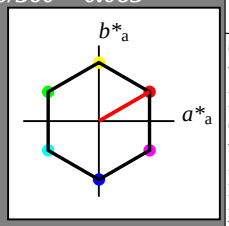
*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

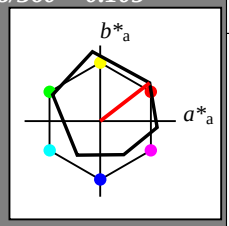
3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u*$_{rel}$ = 93
%Regularity
g*$_{H,rel}$ = 57
g*$_{C,rel}$ = 59

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

relative Natural Colour (NC)

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

relative Natural Colour (NC)

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

relative Natural Colour (NC)

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

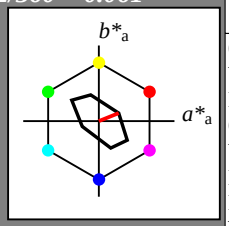
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 22/360 = 0.061
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 16
%Regularity
g*$_{H,rel}$ = 34
g*$_{C,rel}$ = 51

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

relative Natural Colour (NC)

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

relative Natural Colour (NC)

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

relative Natural Colour (NC)

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

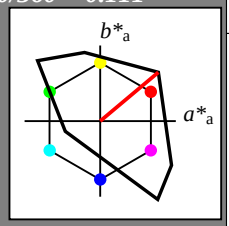
3 step scales for constant CIELAB hue 22/360 = 0.061 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 40/360 = 0.111
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

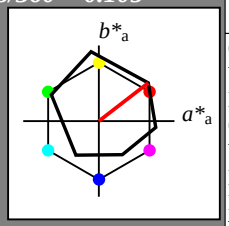
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

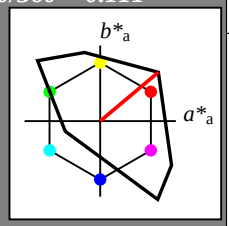
NE100−7, 3 step scales for constant CIELAB hue 40/360 = 0.111 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

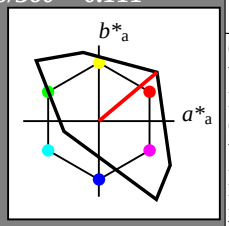
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 40/360 = 0.111 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

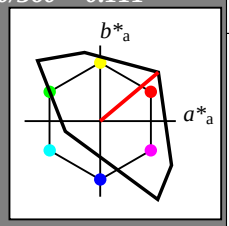
chromaticness *c**

3 step scales for constant CIELAB hue 40/360 = 0.111 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

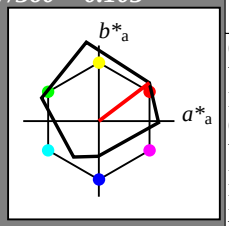
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 37/360 = 0.103**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 40/360 = 0.111 (left)

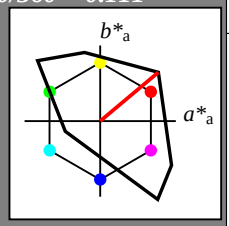
3 step scales for constant CIELAB hue 37/360 = 0.103 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 40/360 = 0.111
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

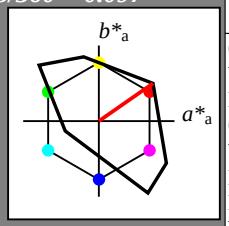
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 35/360 = 0.097
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

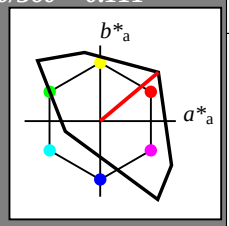
NE100−7, 3 step scales for constant CIELAB hue 40/360 = 0.111 (left)

3 step scales for constant CIELAB hue 35/360 = 0.097 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

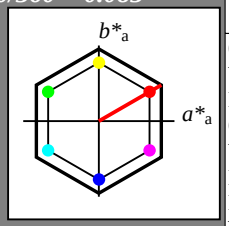
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

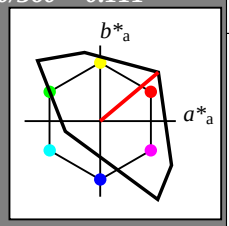
NE100−7, 3 step scales for constant CIELAB hue 40/360 = 0.111 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

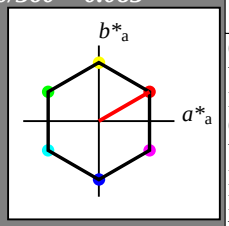
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

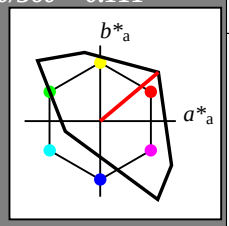
NE100−7, 3 step scales for constant CIELAB hue 40/360 = 0.111 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

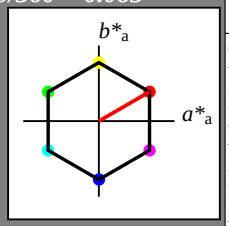
chromaticness *c**

*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 40/360 = 0.111 (left)

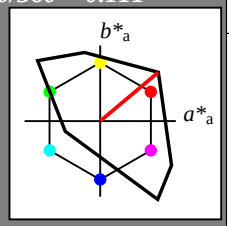
3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

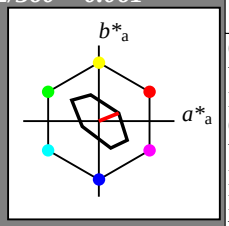
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

*n** = 0,00

blackness *n**

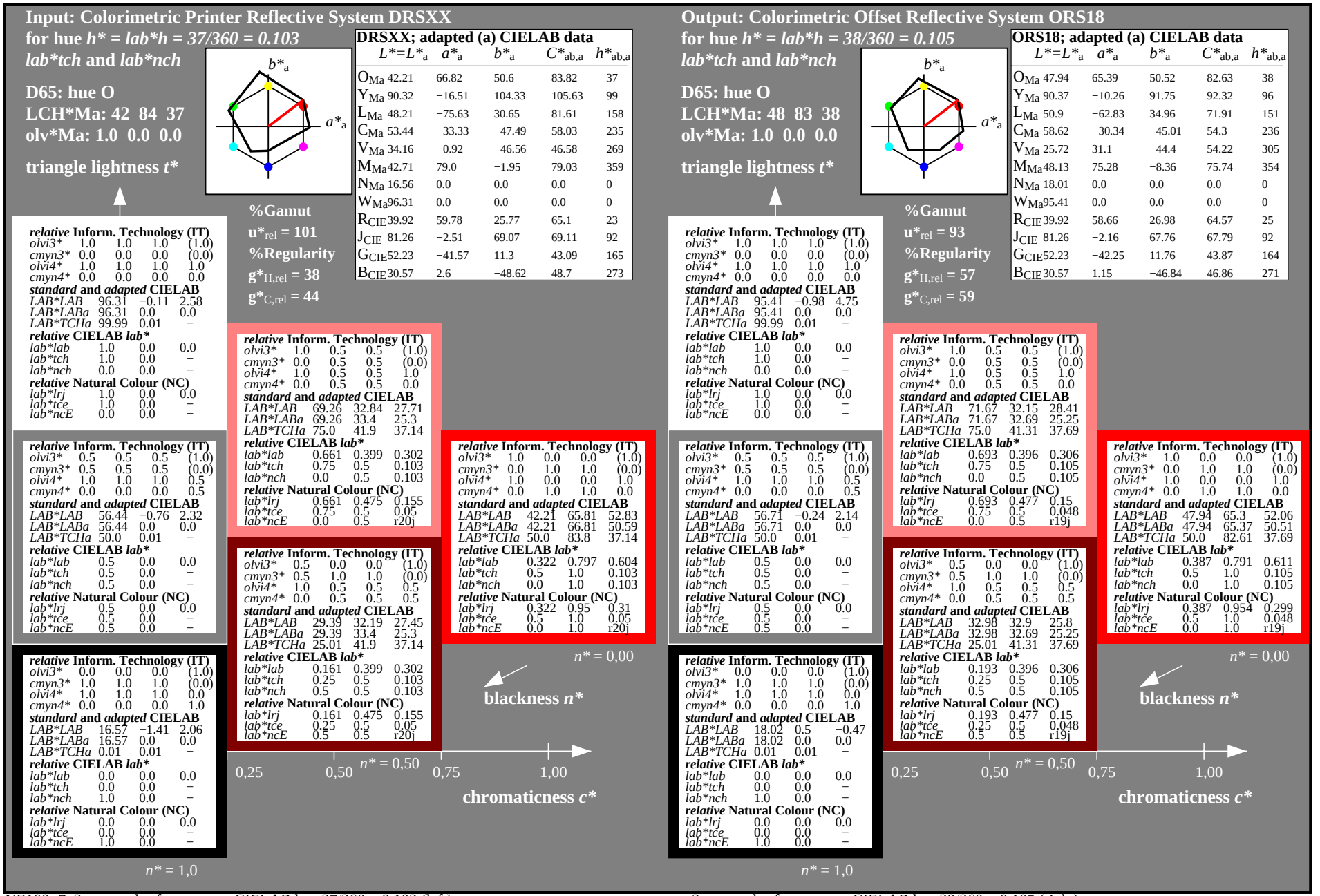
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 40/360 = 0.111 (left)

3 step scales for constant CIELAB hue 22/360 = 0.061 (right)



NE100−7, 3 step scales for constant CIELAB hue 37/360 = 0.103 (left)

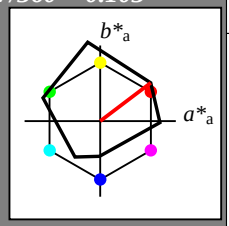
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 37/360 = 0.103**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

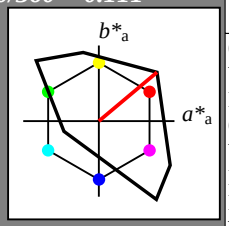
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 37/360 = 0.103 (left)

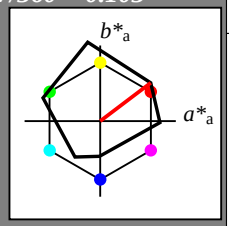
3 step scales for constant CIELAB hue 40/360 = 0.111 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 37/360 = 0.103
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

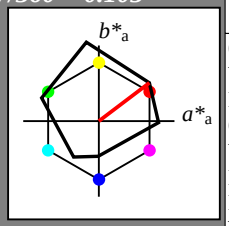
NE100−7, 3 step scales for constant CIELAB hue 37/360 = 0.103 (left)

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 37/360 = 0.103
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

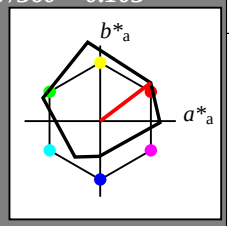
*n** = 1,0

3 step scales for constant CIELAB hue 37/360 = 0.103 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 37/360 = 0.103**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

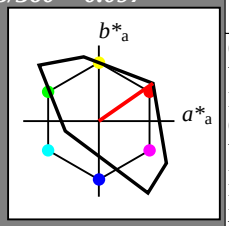
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 35/360 = 0.097**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

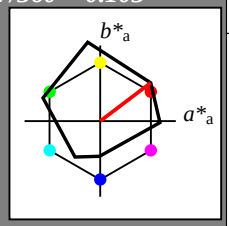
NE100−7, 3 step scales for constant CIELAB hue 37/360 = 0.103 (left)

3 step scales for constant CIELAB hue 35/360 = 0.097 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 37/360 = 0.103**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

***n** = 0,50**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

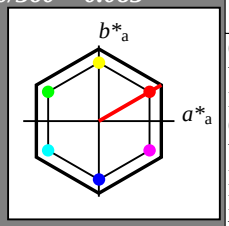
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 37/360 = 0.103 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***n** = 0,50**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

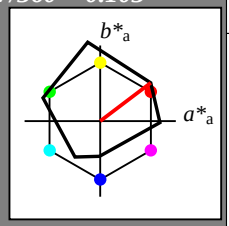
3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 37/360 = 0.103
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

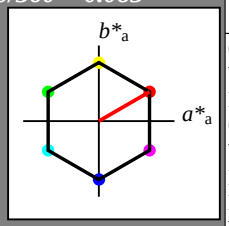
*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 37/360 = 0.103 (left)

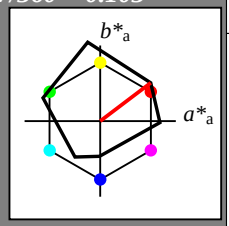
3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 37/360 = 0.103
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

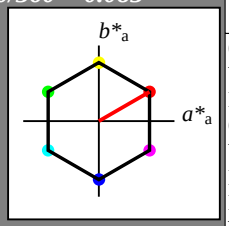
*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

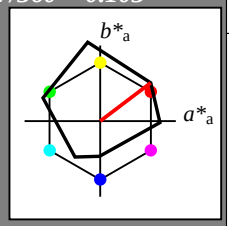
NE100−7, 3 step scales for constant CIELAB hue 37/360 = 0.103 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 37/360 = 0.103**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

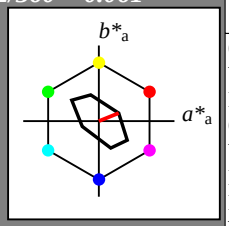
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

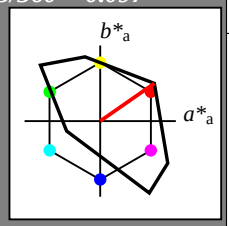
NE100−7, 3 step scales for constant CIELAB hue 37/360 = 0.103 (left)

3 step scales for constant CIELAB hue 22/360 = 0.061 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 35/360 = 0.097**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

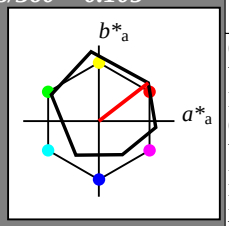
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

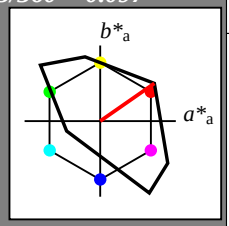
NE100−7, 3 step scales for constant CIELAB hue 35/360 = 0.097 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 35/360 = 0.097**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

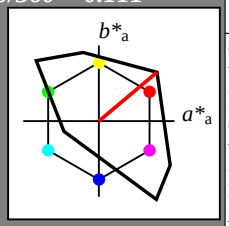
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

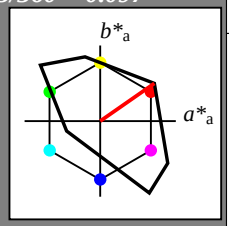
NE100−7, 3 step scales for constant CIELAB hue 35/360 = 0.097 (left)

3 step scales for constant CIELAB hue 40/360 = 0.111 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 35/360 = 0.097**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

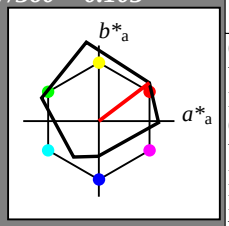
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 37/360 = 0.103**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 35/360 = 0.097 (left)

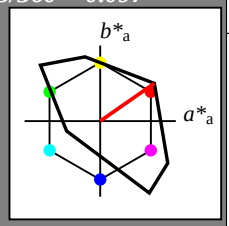
3 step scales for constant CIELAB hue 37/360 = 0.103 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 35/360 = 0.097
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

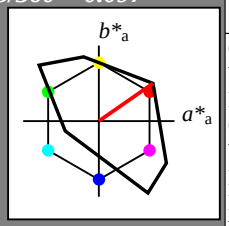
NE100−7, 3 step scales for constant CIELAB hue 35/360 = 0.097 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 35/360 = 0.097
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

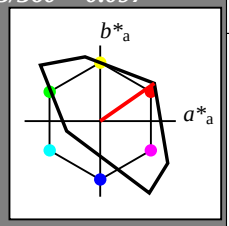
3 step scales for constant CIELAB hue 35/360 = 0.097 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 35/360 = 0.097
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

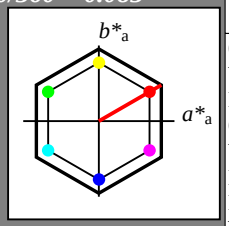
*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 35/360 = 0.097 (left)

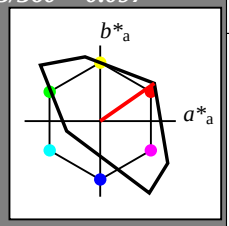
3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 35/360 = 0.097
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

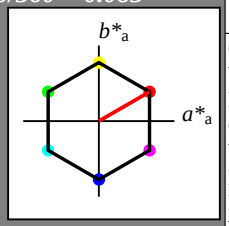
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 35/360 = 0.097 (left)

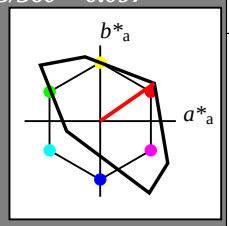
3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 35/360 = 0.097
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

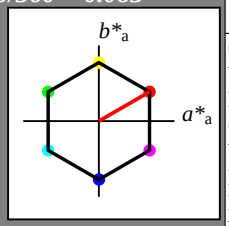
chromaticness c^*

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 35/360 = 0.097 (left)

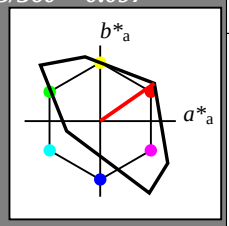
3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 35/360 = 0.097
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

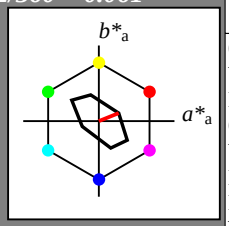
*n** = 0,00
blackness *n**
0,25
0,50
*n** = 0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 22/360 = 0.061
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
0,25
0,50
*n** = 0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

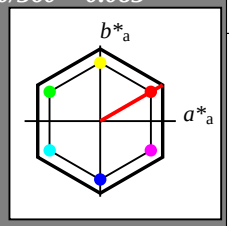
NE100−7, 3 step scales for constant CIELAB hue 35/360 = 0.097 (left)

3 step scales for constant CIELAB hue 22/360 = 0.061 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

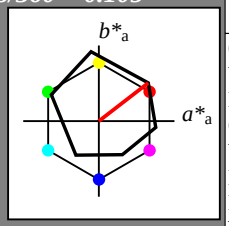
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

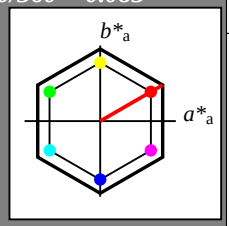
NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

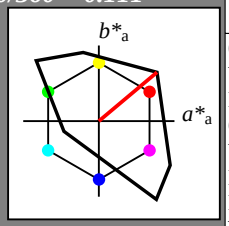
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

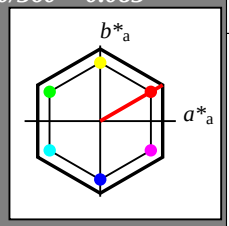
NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 40/360 = 0.111 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

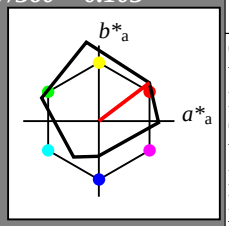
*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 37/360 = 0.103**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

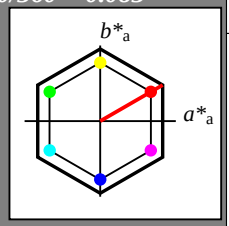
3 step scales for constant CIELAB hue 37/360 = 0.103 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

n^* = 0,50

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

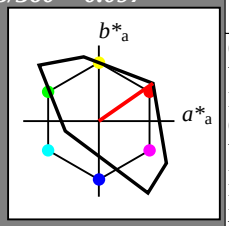
NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 35/360 = 0.097**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

n^* = 0,50

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

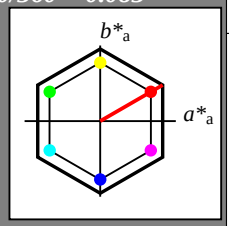
chromaticness c^*

3 step scales for constant CIELAB hue 35/360 = 0.097 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

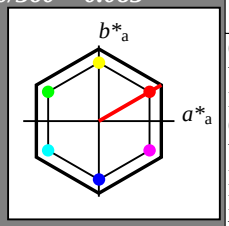
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

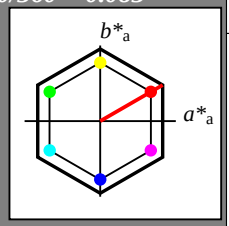
3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

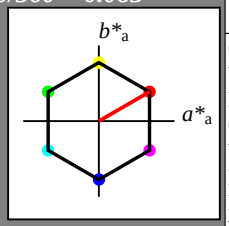
NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

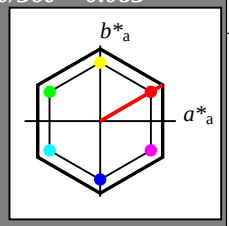
*n** = 1,0

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

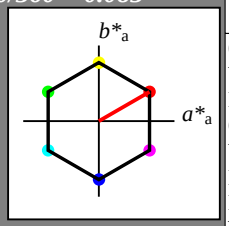
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

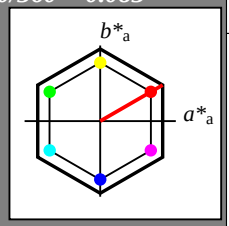
3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

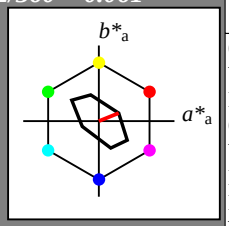
NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

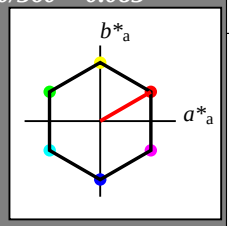
3 step scales for constant CIELAB hue 22/360 = 0.061 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

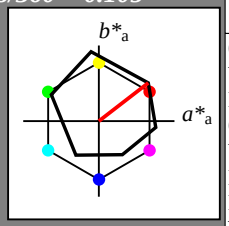
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

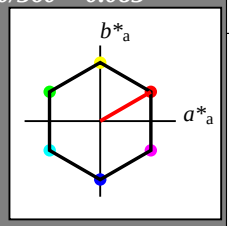
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

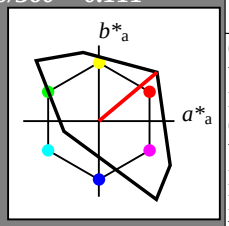
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

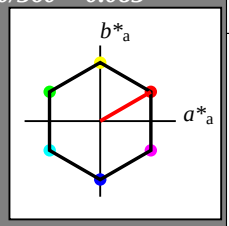
3 step scales for constant CIELAB hue 40/360 = 0.111 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

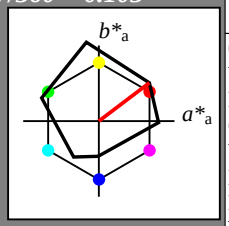
*n** = 0,00
blackness *n**
*n** = 1,0
0,25
0,50
*n** = 0,50
0,75
1,00
chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 37/360 = 0.103
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00
blackness *n**
*n** = 1,0
0,25
0,50
*n** = 0,50
0,75
1,00
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

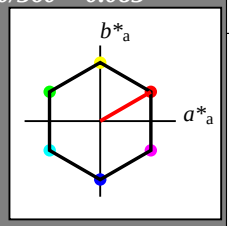
3 step scales for constant CIELAB hue 37/360 = 0.103 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

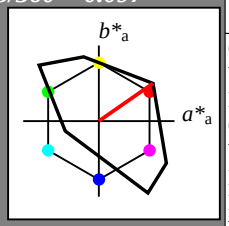
NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 35/360 = 0.097**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

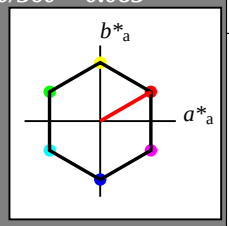
3 step scales for constant CIELAB hue 35/360 = 0.097 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

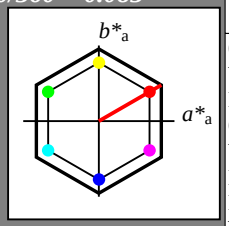
NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

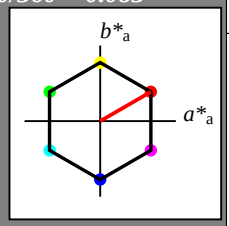
*n** = 1,0

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

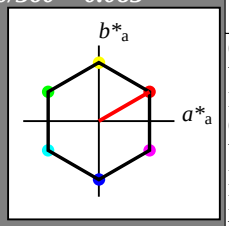
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

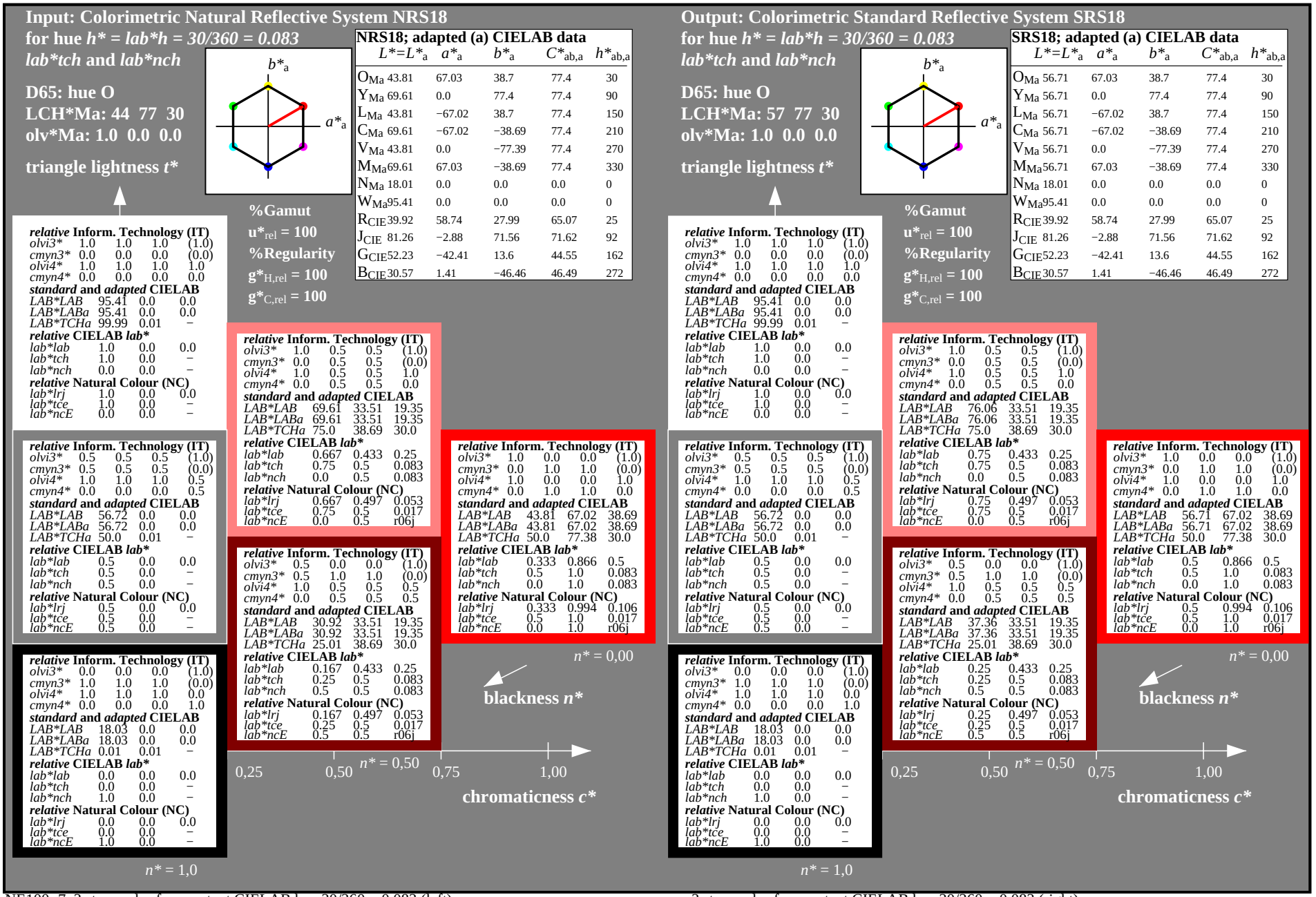
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)



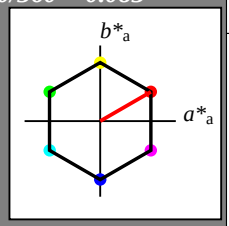
NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

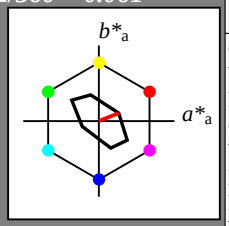
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

*n** = 0,00

blackness *n**

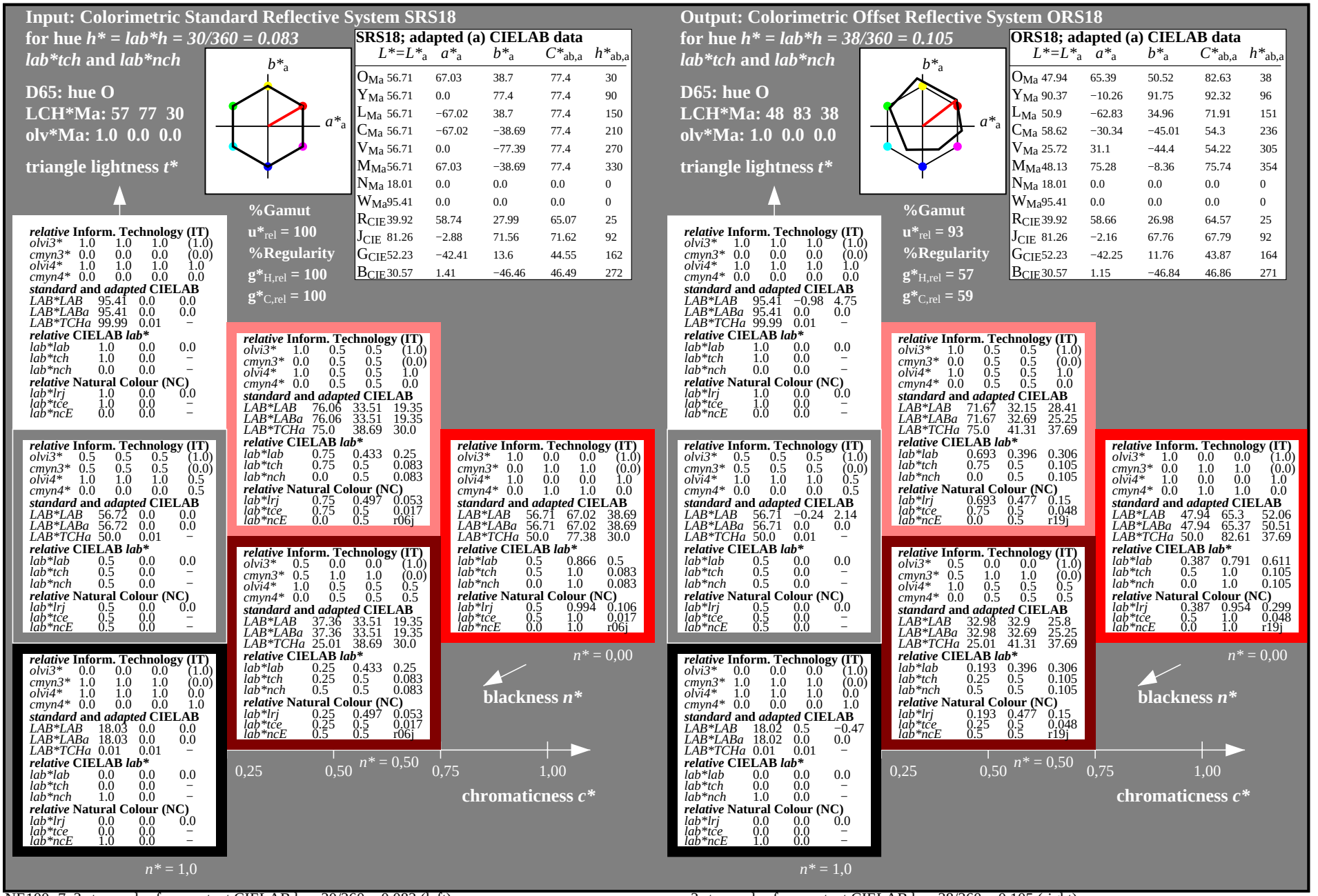
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 22/360 = 0.061 (right)



NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

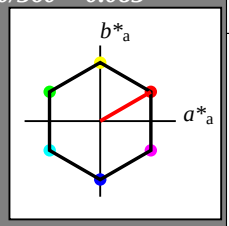
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

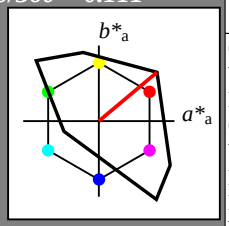
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

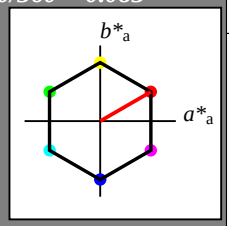
NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 40/360 = 0.111 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

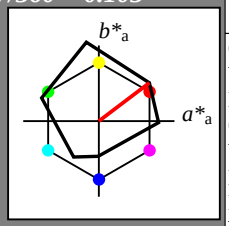
*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 37/360 = 0.103**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

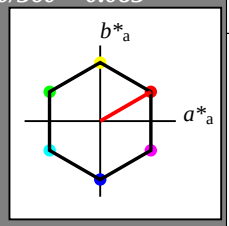
3 step scales for constant CIELAB hue 37/360 = 0.103 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

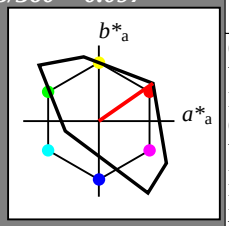
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 35/360 = 0.097**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

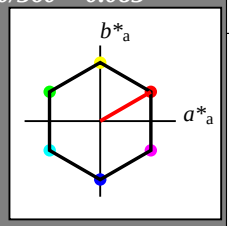
NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 35/360 = 0.097 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

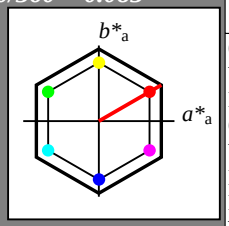
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

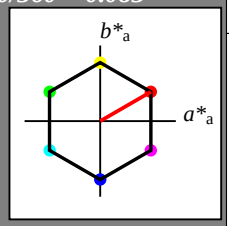
*n** = 1,0

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

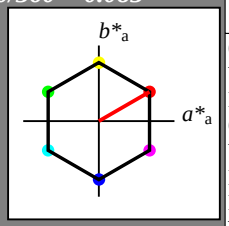
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

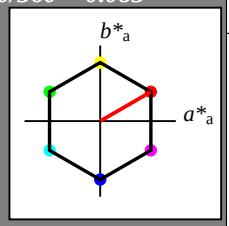
*n** = 1,0

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

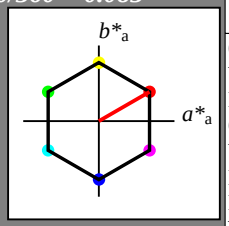
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

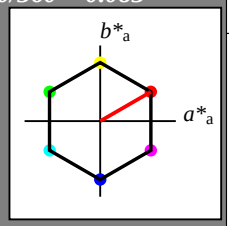
3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

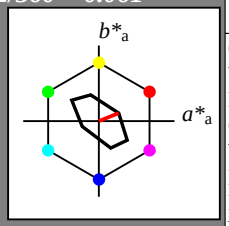
NE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

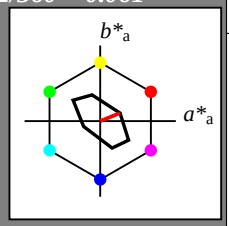
*n** = 1,0

3 step scales for constant CIELAB hue 22/360 = 0.061 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

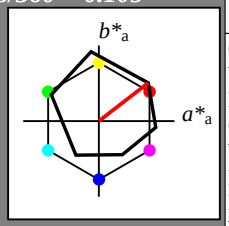
*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.69	25.25
*LAB*TCHa*	75.0	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.69	25.25
*LAB*TCHa*	25.01	41.31	37.69

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.94	65.3	52.06
*LAB*LABa*	47.94	65.37	50.51
*LAB*TCHa*	50.0	82.61	37.69

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

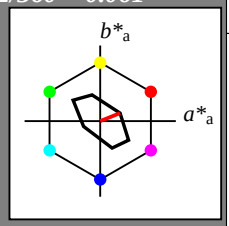
NE100−7, 3 step scales for constant CIELAB hue 22/360 = 0.061 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

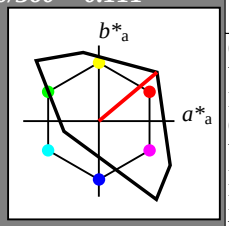
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 40/360 = 0.111**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 51 100 40
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.95	38.45	32.27
*LAB*LABa*	72.95	38.45	32.27
*LAB*TCHa*	75.0	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.765	0.383	0.321
*lab*tch*	0.75	0.5	0.111
*lab*nch*	0.0	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.471	0.167
*lab*tce*	0.75	0.5	0.054
*lab*ncE*	0.0	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.26	38.45	32.27
*LAB*LABa*	25.26	38.45	32.27
*LAB*TCHa*	25.01	50.2	40.0

relative* CIELAB *lab*

*lab*lab*	0.265	0.383	0.321
*lab*tch*	0.25	0.5	0.111
*lab*nch*	0.5	0.5	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.471	0.167
*lab*tce*	0.25	0.5	0.054
*lab*ncE*	0.5	0.5	r21j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.5	76.9	64.54
*LAB*LABa*	50.5	76.9	64.54
*LAB*TCHa*	50.0	100.4	40.0

relative* CIELAB *lab*

*lab*lab*	0.529	0.766	0.643
*lab*tch*	0.5	1.0	0.111
*lab*nch*	0.0	1.0	0.111

***relative* Natural Colour (NC)**

*lab*lrj*	0.529	0.942	0.335
*lab*tce*	0.5	1.0	0.054
*lab*ncE*	0.0	1.0	r21j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

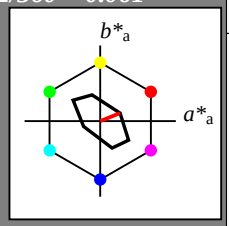
NE100−7, 3 step scales for constant CIELAB hue 22/360 = 0.061 (left)

3 step scales for constant CIELAB hue 40/360 = 0.111 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

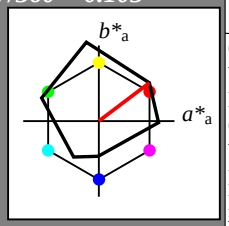
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 37/360 = 0.103**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 42 84 37
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.26	32.84	27.71
*LAB*LABa*	69.26	33.4	25.3
*LAB*TCHa*	75.0	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.661	0.399	0.302
*lab*tch*	0.75	0.5	0.103
*lab*nch*	0.0	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.661	0.475	0.155
*lab*tce*	0.75	0.5	0.05
*lab*ncE*	0.0	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.39	32.19	27.45
*LAB*LABa*	29.39	33.4	25.3
*LAB*TCHa*	25.01	41.9	37.14

relative* CIELAB *lab*

*lab*lab*	0.161	0.399	0.302
*lab*tch*	0.25	0.5	0.103
*lab*nch*	0.5	0.5	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.161	0.475	0.155
*lab*tce*	0.25	0.5	0.05
*lab*ncE*	0.5	0.5	r20j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.21	65.81	52.83
*LAB*LABa*	42.21	66.81	50.59
*LAB*TCHa*	50.0	83.8	37.14

relative* CIELAB *lab*

*lab*lab*	0.322	0.797	0.604
*lab*tch*	0.5	1.0	0.103
*lab*nch*	0.0	1.0	0.103

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	0.95	0.31
*lab*tce*	0.5	1.0	0.05
*lab*ncE*	0.0	1.0	r20j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

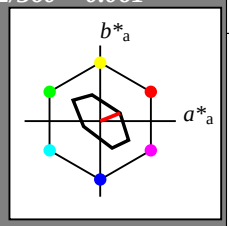
NE100−7, 3 step scales for constant CIELAB hue 22/360 = 0.061 (left)

3 step scales for constant CIELAB hue 37/360 = 0.103 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

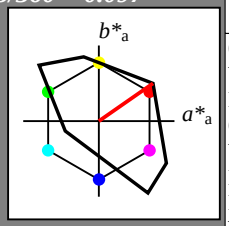
chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 22/360 = 0.061 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 35/360 = 0.097**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 53 87 35
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.08	35.81	24.94
*LAB*LABa*	74.08	35.81	24.94
*LAB*TCHa*	75.0	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.724	0.41	0.286
*lab*tch*	0.75	0.5	0.097
*lab*nch*	0.0	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.724	0.488	0.109
*lab*tce*	0.75	0.5	0.035
*lab*ncE*	0.0	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.39	35.81	24.94
*LAB*LABa*	35.39	35.81	24.94
*LAB*TCHa*	25.01	43.63	34.85

relative* CIELAB *lab*

*lab*lab*	0.225	0.41	0.286
*lab*tch*	0.25	0.5	0.097
*lab*nch*	0.5	0.5	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.488	0.109
*lab*tce*	0.25	0.5	0.035
*lab*ncE*	0.5	0.5	r14j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.76	71.62	49.87
*LAB*LABa*	52.76	71.62	49.87
*LAB*TCHa*	50.0	87.27	34.85

relative* CIELAB *lab*

*lab*lab*	0.449	0.82	0.571
*lab*tch*	0.5	1.0	0.097
*lab*nch*	0.0	1.0	0.097

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	0.976	0.218
*lab*tce*	0.5	1.0	0.035
*lab*ncE*	0.0	1.0	r14j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

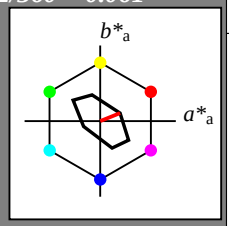
chromaticness c^*

3 step scales for constant CIELAB hue 35/360 = 0.097 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

***n** = 0,00**

blackness *n**

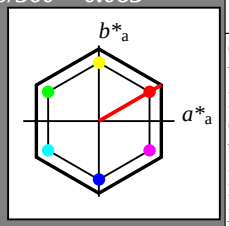
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 32 95 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	41.3	23.85
*LAB*LABa*	63.61	41.3	23.85
*LAB*TCHa*	75.0	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	41.3	23.85
*LAB*LABa*	15.92	41.3	23.85
*LAB*TCHa*	25.01	47.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	82.6	47.69
*LAB*LABa*	31.81	82.6	47.69
*LAB*TCHa*	50.0	95.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

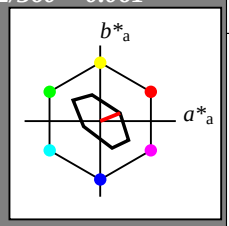
NE100−7, 3 step scales for constant CIELAB hue 22/360 = 0.061 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

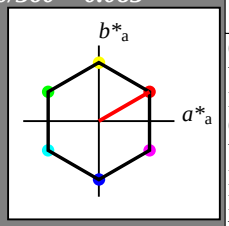
chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 22/360 = 0.061 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 44 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	33.51	19.35
*LAB*LABa*	69.61	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	33.51	19.35
*LAB*LABa*	30.92	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	67.02	38.69
*LAB*LABa*	43.81	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

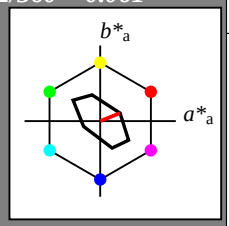
chromaticness c^*

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

***relative* Natural Colour (NC)**

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

***relative* Natural Colour (NC)**

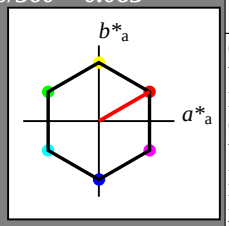
*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 57 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	19.35
*LAB*LABa*	76.06	33.51	19.35
*LAB*TCHa*	75.0	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	0.25
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.497	0.053
*lab*tce*	0.75	0.5	0.017
*lab*ncE*	0.0	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	19.35
*LAB*LABa*	37.36	33.51	19.35
*LAB*TCHa*	25.01	38.69	30.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	0.25
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.497	0.053
*lab*tce*	0.25	0.5	0.017
*lab*ncE*	0.5	0.5	r06j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	38.69
*LAB*LABa*	56.71	67.02	38.69
*LAB*TCHa*	50.0	77.38	30.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	0.5
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.994	0.106
*lab*tce*	0.5	1.0	0.017
*lab*ncE*	0.0	1.0	r06j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

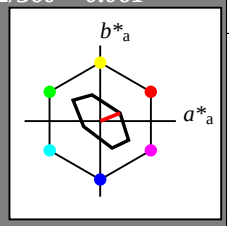
NE100−7, 3 step scales for constant CIELAB hue 22/360 = 0.061 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

relative Natural Colour (NC)

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

relative Natural Colour (NC)

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

relative Natural Colour (NC)

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

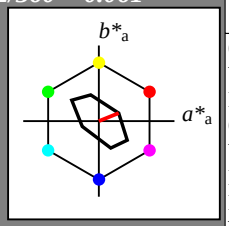
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 22/360 = 0.061 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 22/360 = 0.061**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 76 28 22
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.92	13.13	5.28
*LAB*LABa*	85.92	13.13	5.28
*LAB*TCHa*	75.0	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.631	0.464	0.187
*lab*tch*	0.75	0.5	0.061
*lab*nch*	0.0	0.5	0.061

relative Natural Colour (NC)

*lab*lrj*	0.631	0.499	−0.024
*lab*tce*	0.75	0.5	0.992
*lab*ncE*	0.0	0.5	b96r

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.07	13.13	5.28
*LAB*LABa*	73.07	13.13	5.28
*LAB*TCHa*	25.01	14.16	21.92

relative* CIELAB *lab*

*lab*lab*	0.131	0.464	0.187
*lab*tch*	0.25	0.5	0.061
*lab*nch*	0.5	0.5	0.061

relative Natural Colour (NC)

*lab*lrj*	0.131	0.499	−0.024
*lab*tce*	0.25	0.5	0.992
*lab*ncE*	0.5	0.5	b96r

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.43	26.26	10.57
*LAB*LABa*	76.43	26.26	10.57
*LAB*TCHa*	50.0	28.31	21.92

relative* CIELAB *lab*

*lab*lab*	0.262	0.928	0.373
*lab*tch*	0.5	1.0	0.061
*lab*nch*	0.0	1.0	0.061

relative Natural Colour (NC)

*lab*lrj*	0.262	0.999	−0.048
*lab*tce*	0.5	1.0	0.992
*lab*ncE*	0.0	1.0	b96r

*n** = 0,00

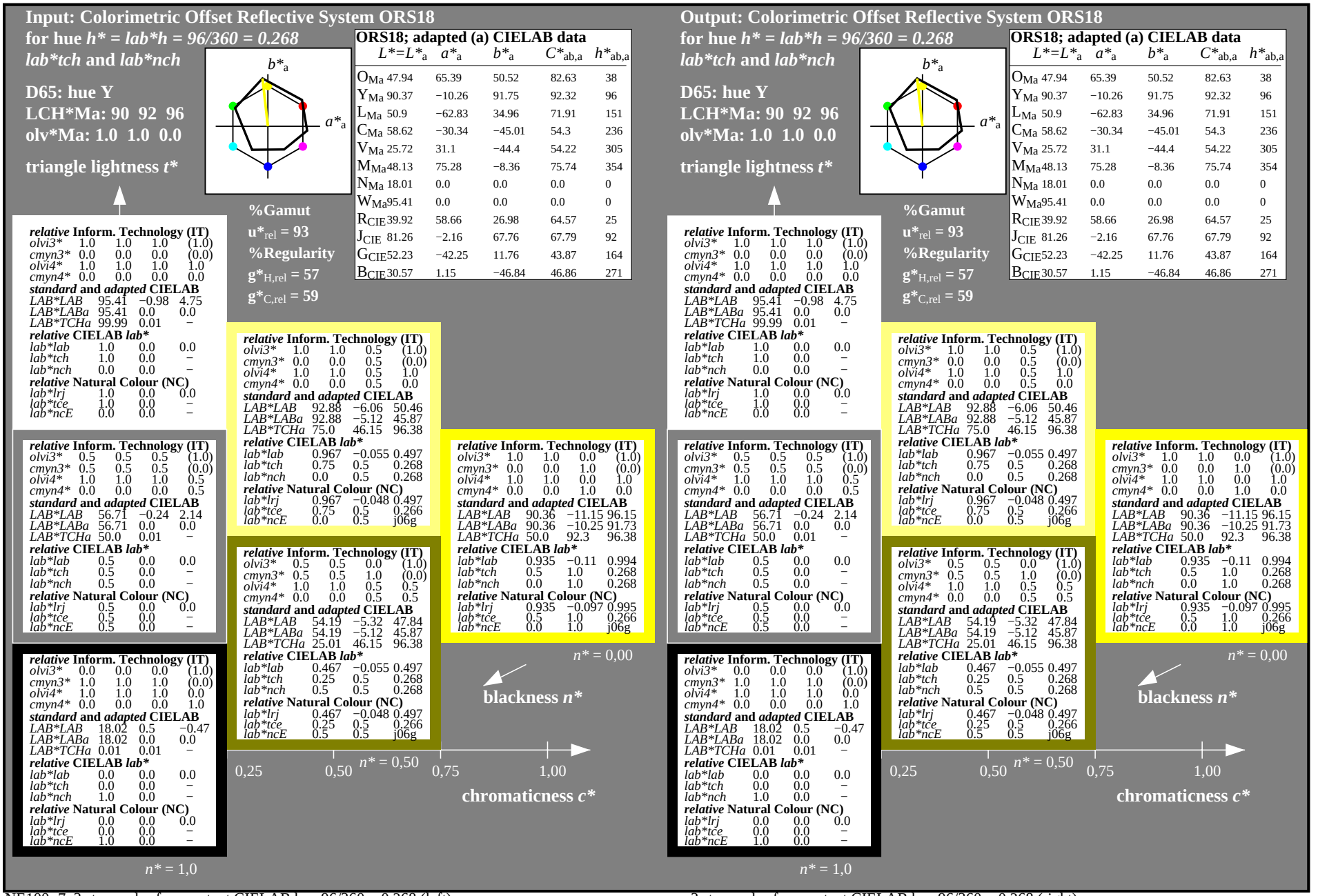
blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

3 step scales for constant CIELAB hue 22/360 = 0.061 (right)



NE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

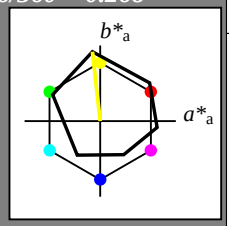
3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 96/360 = 0.268
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

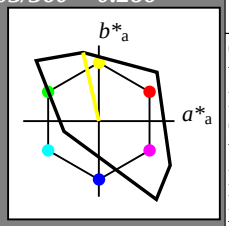
chromaticness c^*

Output: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 103/360 = 0.286
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

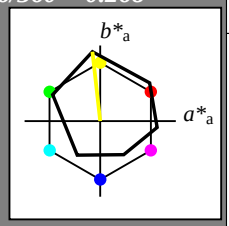
NE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 103/360 = 0.286 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

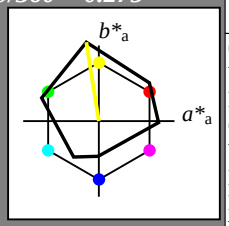
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 99/360 = 0.275**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

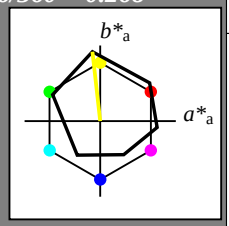
3 step scales for constant CIELAB hue 99/360 = 0.275 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 96/360 = 0.268
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

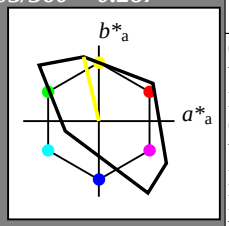
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 103/360 = 0.287
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

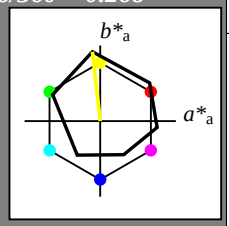
3 step scales for constant CIELAB hue 103/360 = 0.287 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 96/360 = 0.268
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

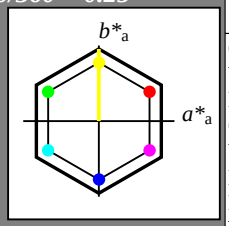
chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 90/360 = 0.25
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

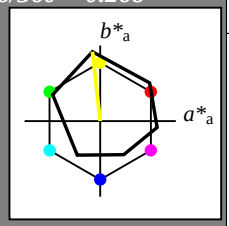
3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 96/360 = 0.268
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

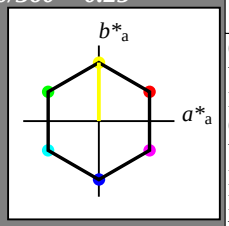
*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 90/360 = 0.25
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 70 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	0.0	38.69
*LAB*LABa*	82.5	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	38.69
*LAB*LABa*	43.81	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	77.38
*LAB*LABa*	69.61	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

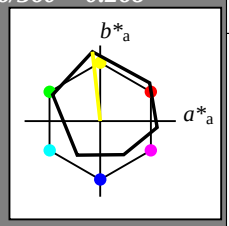
NE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

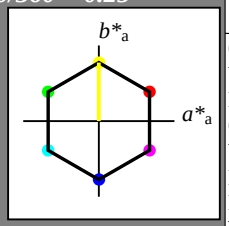
chromaticness *c**

*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

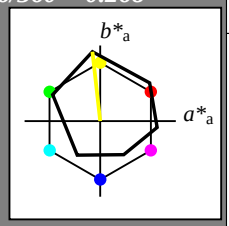
3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 96/360 = 0.268
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

relative Natural Colour (NC)

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

relative Natural Colour (NC)

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

relative Natural Colour (NC)

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

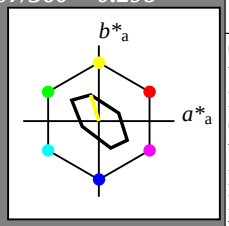
NE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

Output: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 107/360 = 0.298
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

relative Natural Colour (NC)

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

relative Natural Colour (NC)

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

relative Natural Colour (NC)

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

relative Natural Colour (NC)

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

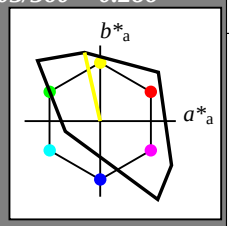
3 step scales for constant CIELAB hue 107/360 = 0.298 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h* = lab*h = 103/360 = 0.286*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

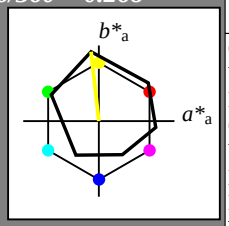
NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.286 (left)

Output: Colorimetric Offset Reflective System ORS18

for hue *h* = lab*h = 96/360 = 0.268*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

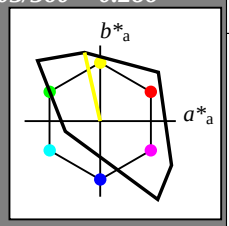
3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h = lab*h = 103/360 = 0.286**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

***n** = 0,00**

blackness *n**

0,25 — 0,50 — ***n** = 0,50** — 0,75 — 1,00

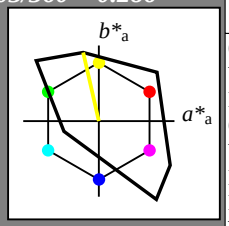
chromaticness *c**

Output: Colorimetric Television Luminous System TLS00

for hue *h = lab*h = 103/360 = 0.286**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

***n** = 0,00**

blackness *n**

0,25 — 0,50 — ***n** = 0,50** — 0,75 — 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.286 (left)

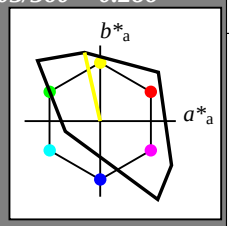
3 step scales for constant CIELAB hue 103/360 = 0.286 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h* = lab*h = 103/360 = 0.286*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

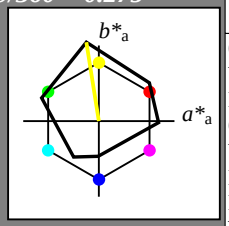
chromaticness c^*

Output: Colorimetric Printer Reflective System DRSXX

for hue *h* = lab*h = 99/360 = 0.275*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.286 (left)

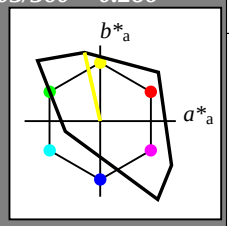
3 step scales for constant CIELAB hue 99/360 = 0.275 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 103/360 = 0.286
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

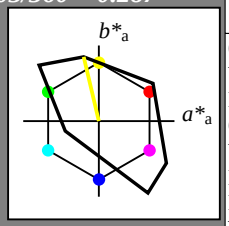
NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.286 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 103/360 = 0.287
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

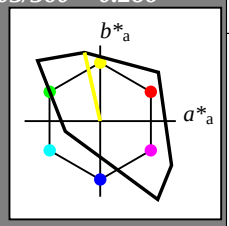
3 step scales for constant CIELAB hue 103/360 = 0.287 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h* = lab*h = 103/360 = 0.286*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

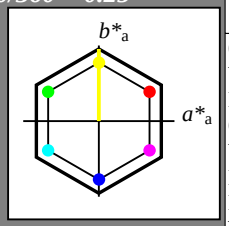
chromaticness ***c****

Output: Colorimetric Natural Luminous System NLS00

for hue *h* = lab*h = 90/360 = 0.25*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 152
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness ***c****

NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.286 (left)

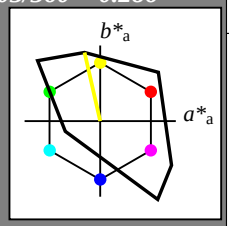
3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h* = lab*h = 103/360 = 0.286*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

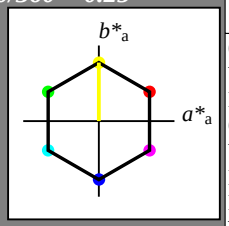
chromaticness c^*

Output: Colorimetric Natural Reflective System NRS18

for hue *h* = lab*h = 90/360 = 0.25*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 70 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	0.0	38.69
*LAB*LABa*	82.5	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	38.69
*LAB*LABa*	43.81	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	77.38
*LAB*LABa*	69.61	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

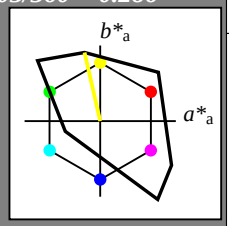
NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.286 (left)

3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 103/360 = 0.286**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

***n** = 0,00**

blackness *n**

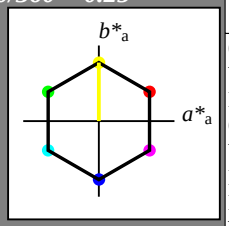
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.286 (left)

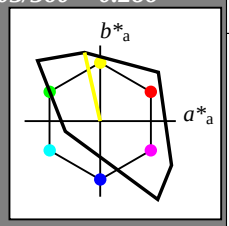
3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h* = lab*h = 103/360 = 0.286*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

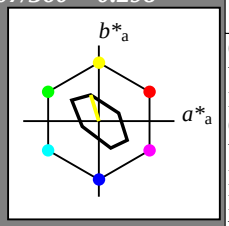
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h* = lab*h = 107/360 = 0.298*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.286 (left)

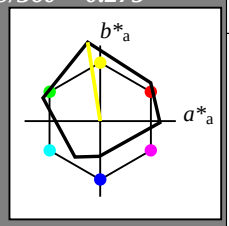
3 step scales for constant CIELAB hue 107/360 = 0.298 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 99/360 = 0.275
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

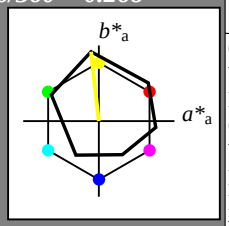
NE100−7, 3 step scales for constant CIELAB hue 99/360 = 0.275 (left)

Output: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 96/360 = 0.268
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

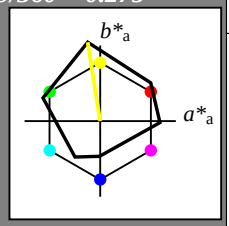
*n** = 1,0

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 99/360 = 0.275**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

***n** = 0,00**

blackness *n**

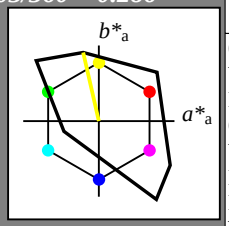
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 103/360 = 0.286**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 99/360 = 0.275 (left)

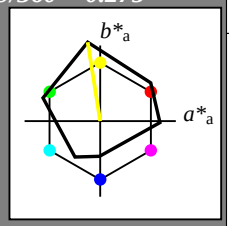
3 step scales for constant CIELAB hue 103/360 = 0.286 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 99/360 = 0.275**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

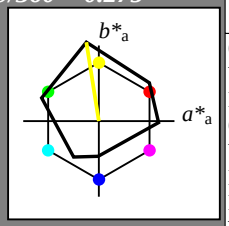
chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 99/360 = 0.275**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

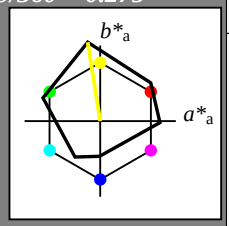
NE100−7, 3 step scales for constant CIELAB hue 99/360 = 0.275 (left)

3 step scales for constant CIELAB hue 99/360 = 0.275 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 99/360 = 0.275**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

***n** = 0,00**

blackness *n**

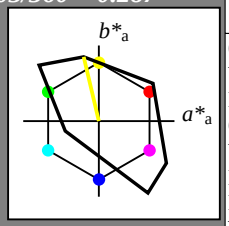
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 103/360 = 0.287**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

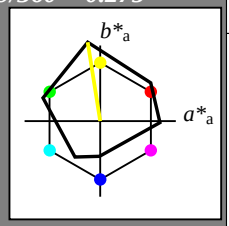
NE100−7, 3 step scales for constant CIELAB hue 99/360 = 0.275 (left)

3 step scales for constant CIELAB hue 103/360 = 0.287 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 99/360 = 0.275**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

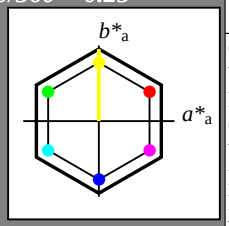
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

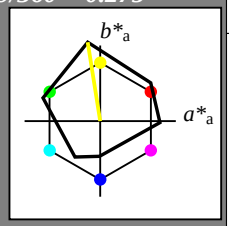
NE100−7, 3 step scales for constant CIELAB hue 99/360 = 0.275 (left)

3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 99/360 = 0.275**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

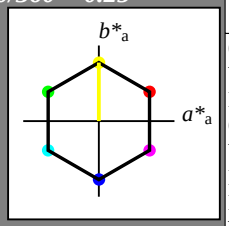
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 70 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	0.0	38.69
*LAB*LABa*	82.5	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	38.69
*LAB*LABa*	43.81	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	77.38
*LAB*LABa*	69.61	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 99/360 = 0.275 (left)

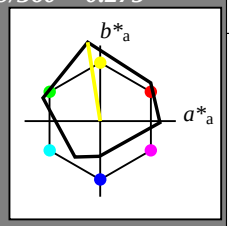
3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 99/360 = 0.275
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

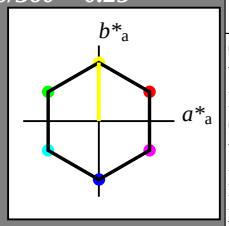
chromaticness c^*

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 90/360 = 0.25
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

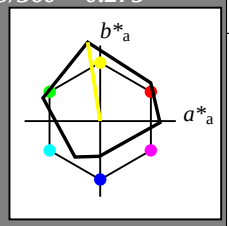
NE100−7, 3 step scales for constant CIELAB hue 99/360 = 0.275 (left)

3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 99/360 = 0.275**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

***n** = 0,00**

blackness *n**

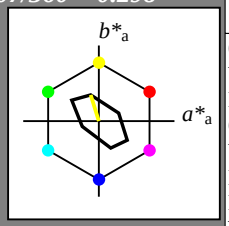
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 107/360 = 0.298**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 99/360 = 0.275 (left)

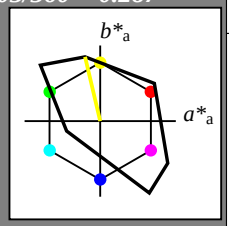
3 step scales for constant CIELAB hue 107/360 = 0.298 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 103/360 = 0.287*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

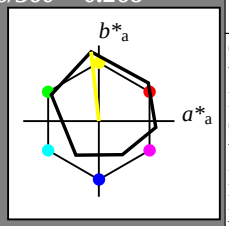
NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.287 (left)

Output: Colorimetric Offset Reflective System ORS18

for hue *h* = lab*h = 96/360 = 0.268*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

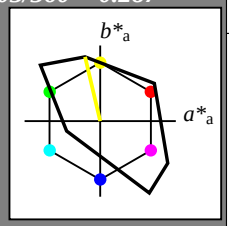
*n** = 1,0

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 103/360 = 0.287**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

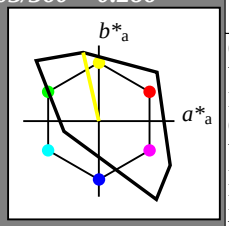
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 103/360 = 0.286**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.287 (left)

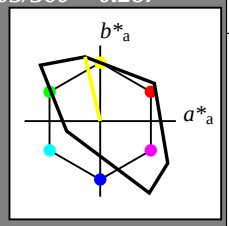
3 step scales for constant CIELAB hue 103/360 = 0.286 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h = lab*h = 103/360 = 0.287**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

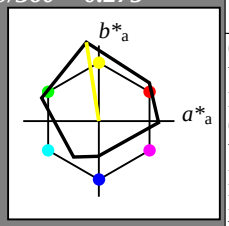
*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX

for hue *h = lab*h = 99/360 = 0.275**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

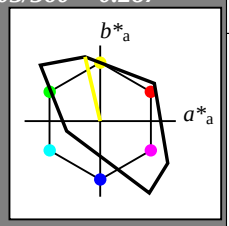
NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.287 (left)

3 step scales for constant CIELAB hue 99/360 = 0.275 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 103/360 = 0.287**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

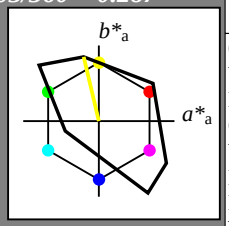
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 103/360 = 0.287**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

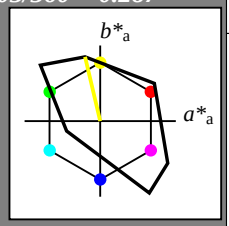
NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.287 (left)

3 step scales for constant CIELAB hue 103/360 = 0.287 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 103/360 = 0.287**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

***n** = 0,00**

blackness *n**

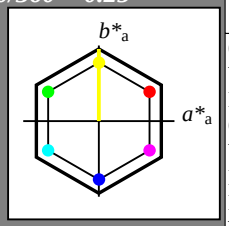
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.287 (left)

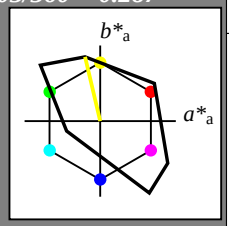
3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 103/360 = 0.287*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

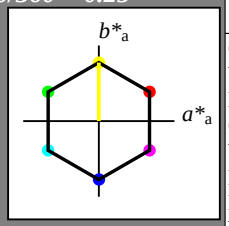
*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18

for hue *h* = lab*h = 90/360 = 0.25*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 70 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	0.0	38.69
*LAB*LABa*	82.5	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	38.69
*LAB*LABa*	43.81	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	77.38
*LAB*LABa*	69.61	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

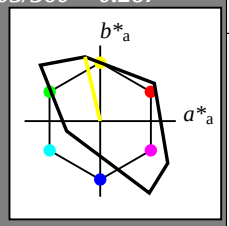
NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.287 (left)

3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 103/360 = 0.287**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

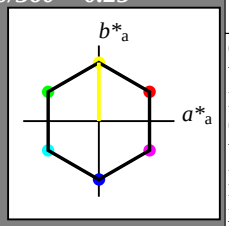
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.287 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

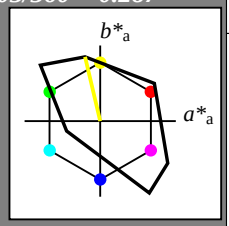
3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 103/360 = 0.287*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

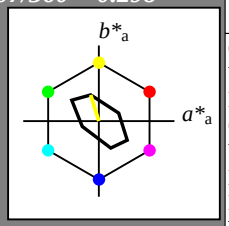
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h* = lab*h = 107/360 = 0.298*
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 103/360 = 0.287 (left)

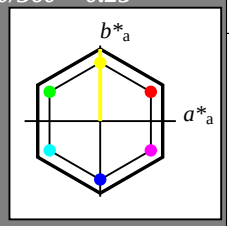
3 step scales for constant CIELAB hue 107/360 = 0.298 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

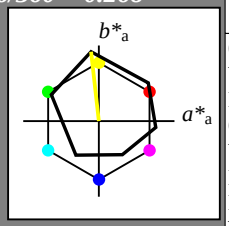
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

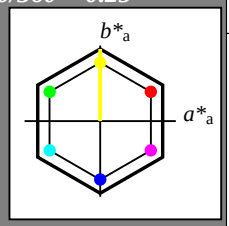
3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative CIELAB *lab**

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative CIELAB *lab**

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative CIELAB *lab**

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative CIELAB *lab**

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

relative Natural Colour (NC)

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative CIELAB *lab**

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

relative Natural Colour (NC)

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative CIELAB *lab**

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

relative Natural Colour (NC)

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

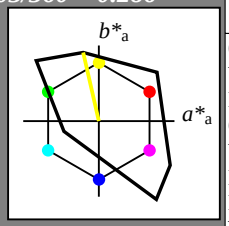
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 103/360 = 0.286**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative CIELAB *lab**

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative CIELAB *lab**

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative CIELAB *lab**

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative CIELAB *lab**

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

relative Natural Colour (NC)

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative CIELAB *lab**

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

relative Natural Colour (NC)

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative CIELAB *lab**

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

relative Natural Colour (NC)

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

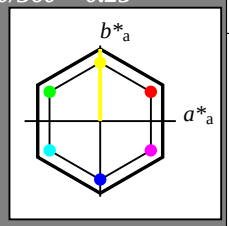
3 step scales for constant CIELAB hue 103/360 = 0.286 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 90/360 = 0.25
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

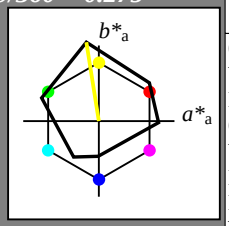
*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 99/360 = 0.275
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

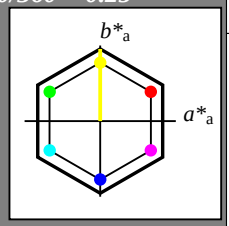
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

3 step scales for constant CIELAB hue 99/360 = 0.275 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

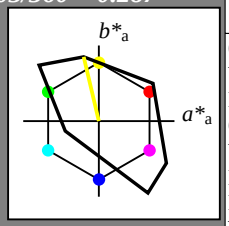
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 103/360 = 0.287**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

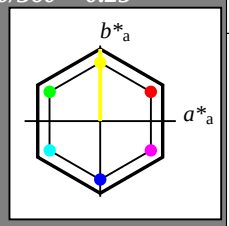
chromaticness *c**

3 step scales for constant CIELAB hue 103/360 = 0.287 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

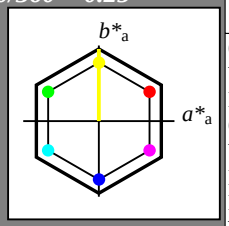
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

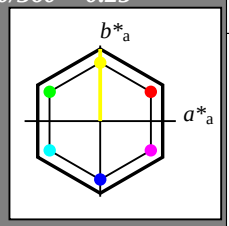
3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 152
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***n** = 0,50**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

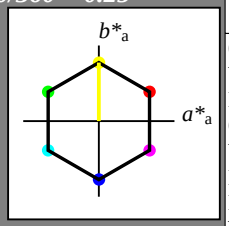
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 70 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 100
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	0.0	38.69
*LAB*LABa*	82.5	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	38.69
*LAB*LABa*	43.81	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***n** = 0,50**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	77.38
*LAB*LABa*	69.61	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

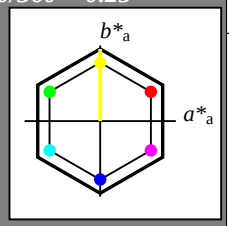
3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 152
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***n** = 0,50**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

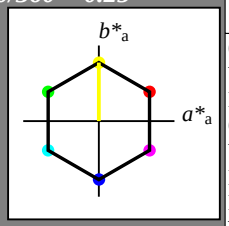
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 100
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

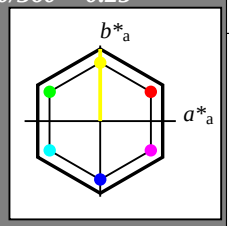
chromaticness *c**

3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***n** = 0,50**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

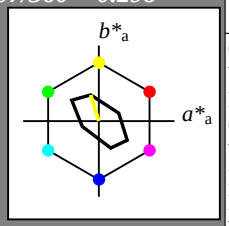
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 107/360 = 0.298**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

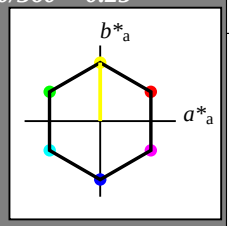
3 step scales for constant CIELAB hue 107/360 = 0.298 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 70 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	0.0	38.69
*LAB*LABa*	82.5	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	38.69
*LAB*LABa*	43.81	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	77.38
*LAB*LABa*	69.61	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

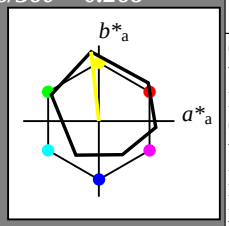
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

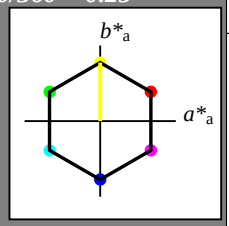
3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 90/360 = 0.25
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 70 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	0.0	38.69
*LAB*LABa*	82.5	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	38.69
*LAB*LABa*	43.81	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	77.38
*LAB*LABa*	69.61	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

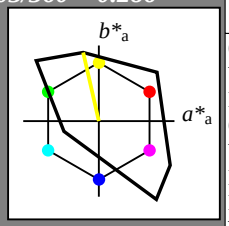
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 103/360 = 0.286
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

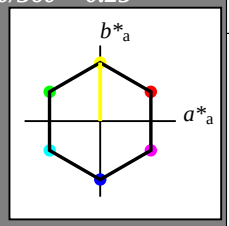
3 step scales for constant CIELAB hue 103/360 = 0.286 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = lab*h = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 70 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	0.0	38.69
*LAB*LABa*	82.5	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	38.69
*LAB*LABa*	43.81	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	77.38
*LAB*LABa*	69.61	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

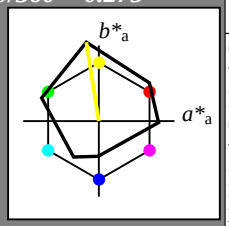
*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX

for hue *h = lab*h = 99/360 = 0.275**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

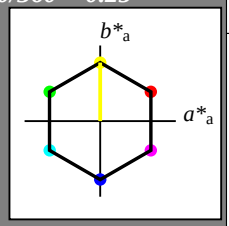
3 step scales for constant CIELAB hue 99/360 = 0.275 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 90/360 = 0.25
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 70 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	0.0	38.69
*LAB*LABa*	82.5	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	38.69
*LAB*LABa*	43.81	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	77.38
*LAB*LABa*	69.61	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

n^* = 1,0

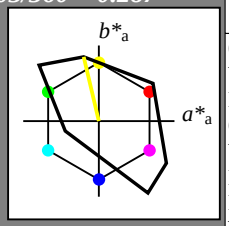
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 103/360 = 0.287
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

n^* = 1,0

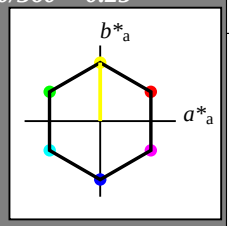
3 step scales for constant CIELAB hue 103/360 = 0.287 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 70 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	0.0	38.69
*LAB*LABa*	82.5	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	38.69
*LAB*LABa*	43.81	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	77.38
*LAB*LABa*	69.61	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

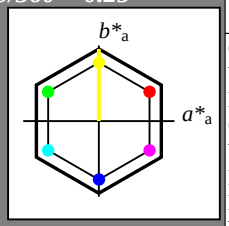
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

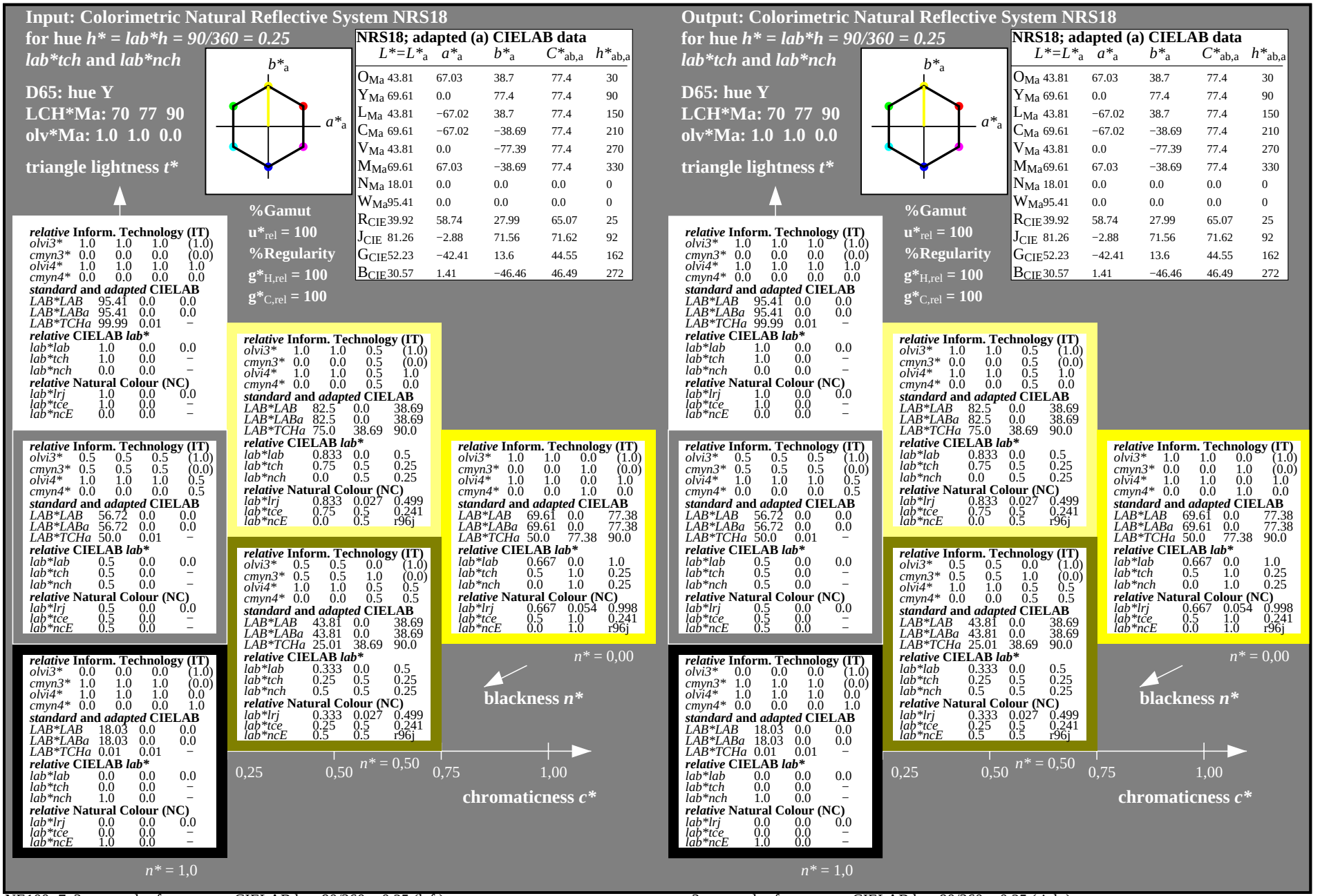
*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

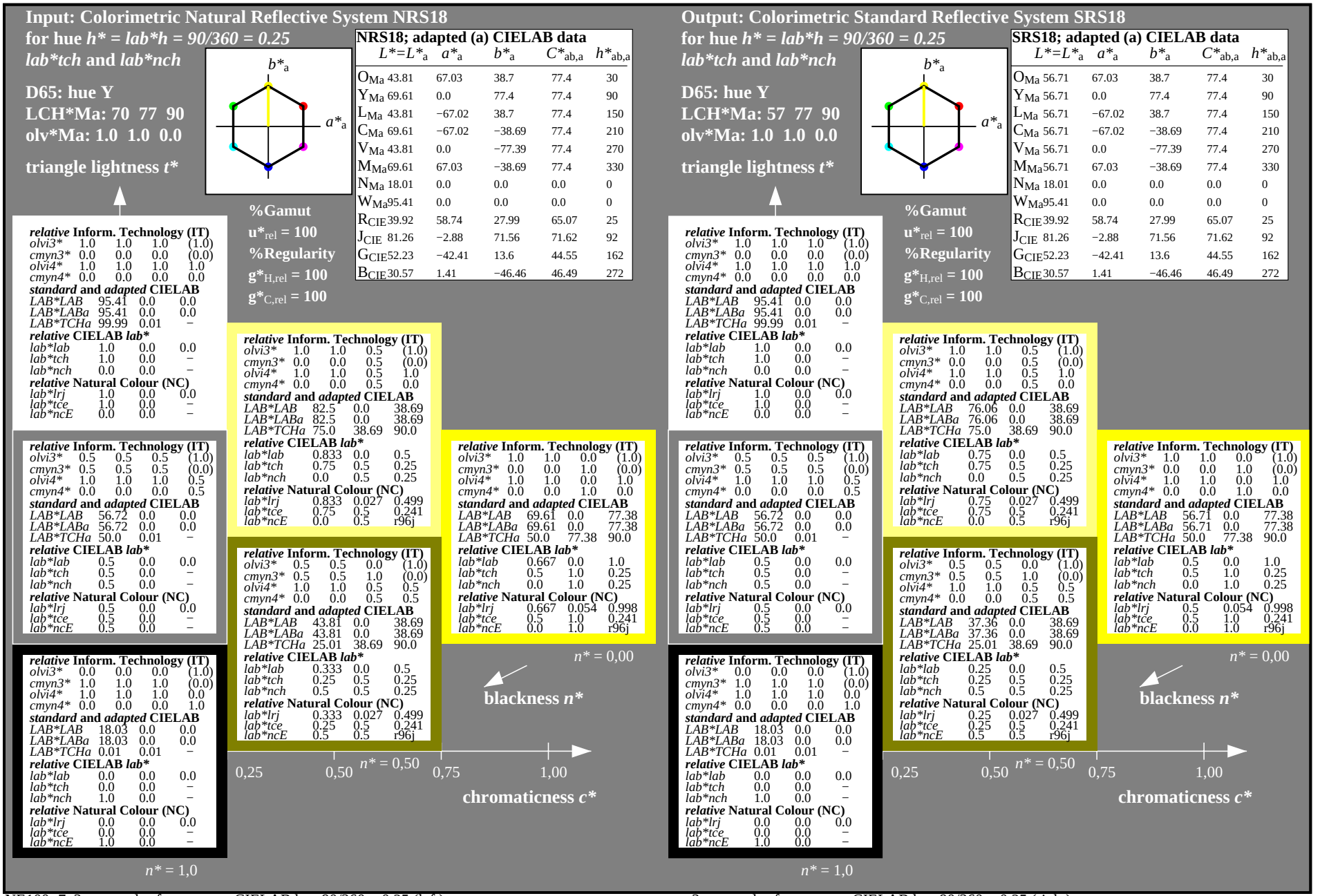
*n** = 1,0

3 step scales for constant CIELAB hue 90/360 = 0.25 (right)



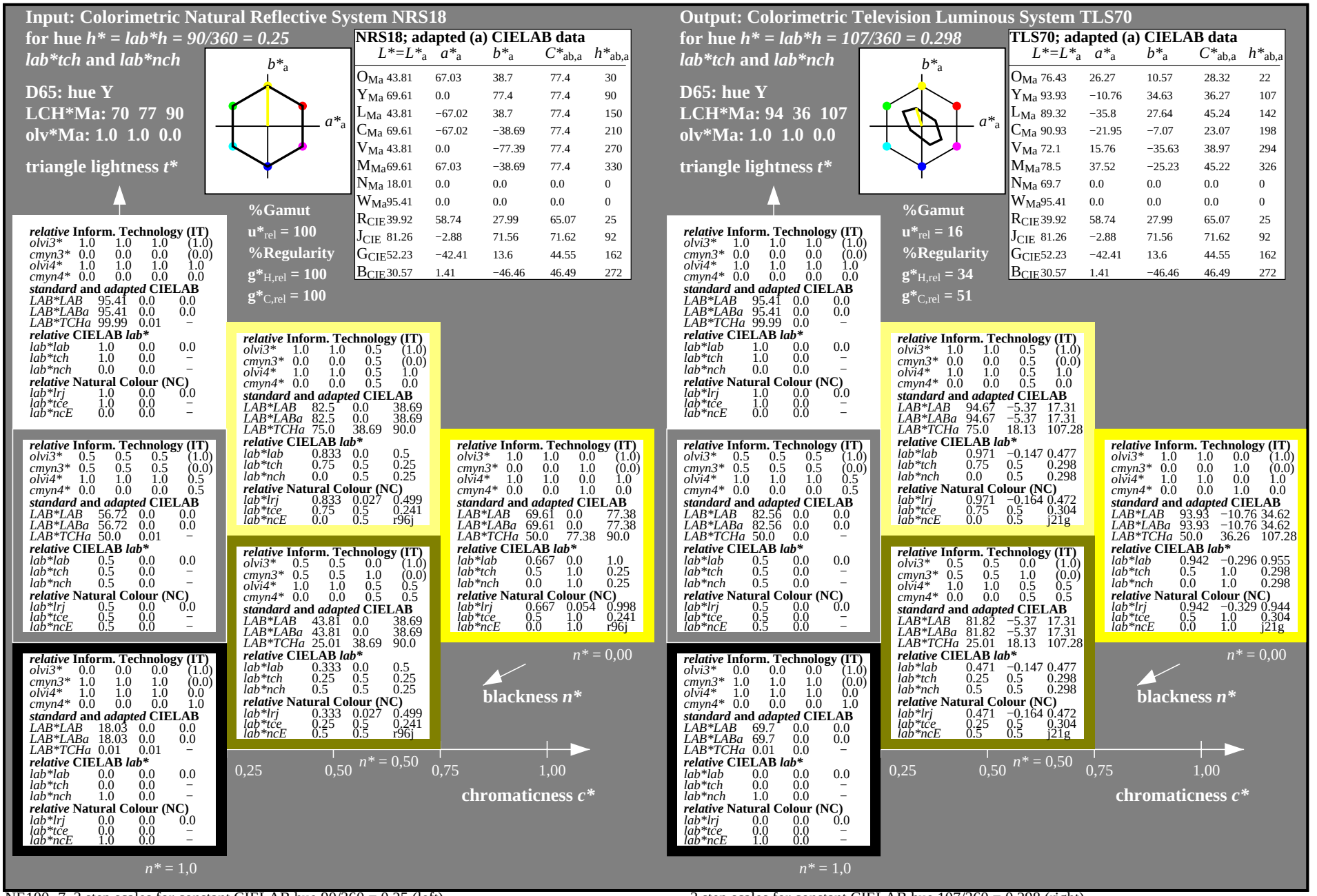
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

3 step scales for constant CIELAB hue 90/360 = 0.25 (right)



NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

3 step scales for constant CIELAB hue 90/360 = 0.25 (right)



NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

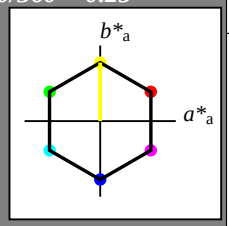
3 step scales for constant CIELAB hue 107/360 = 0.298 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 90/360 = 0.25
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

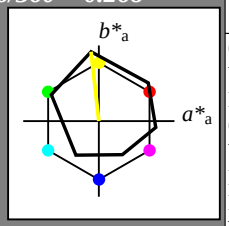
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 96/360 = 0.268
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

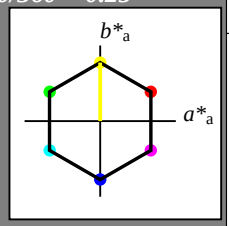
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

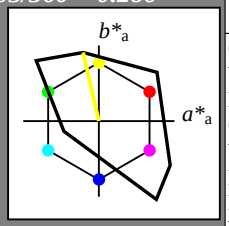
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 103/360 = 0.286**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

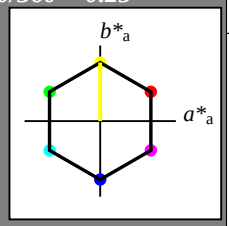
3 step scales for constant CIELAB hue 103/360 = 0.286 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

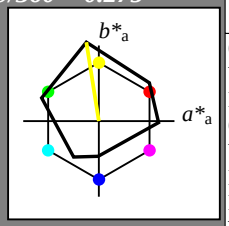
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 99/360 = 0.275**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

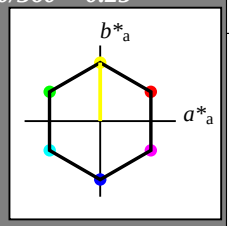
*n** = 1,0

3 step scales for constant CIELAB hue 99/360 = 0.275 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

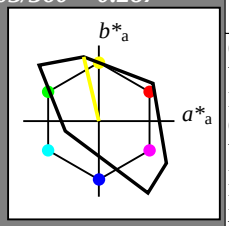
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 103/360 = 0.287**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

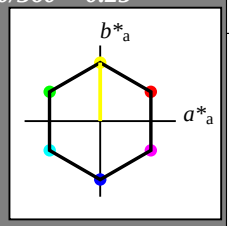
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

3 step scales for constant CIELAB hue 103/360 = 0.287 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

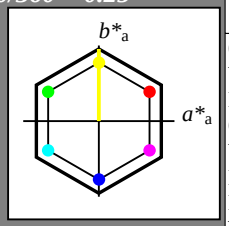
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

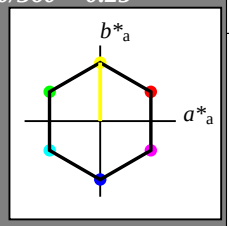
3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

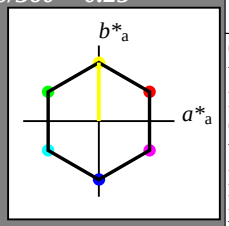
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 70 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	0.0	38.69
*LAB*LABa*	82.5	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	38.69
*LAB*LABa*	43.81	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	77.38
*LAB*LABa*	69.61	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

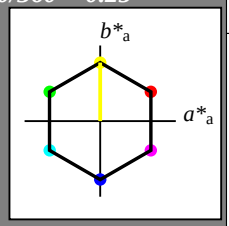
3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 90/360 = 0.25
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 100
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

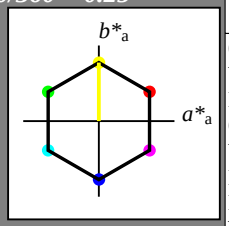
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 90/360 = 0.25
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 100
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

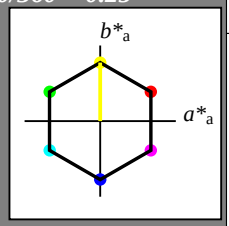
3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 90/360 = 0.25
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

n^* = 1,0

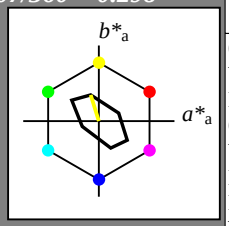
NE100−7, 3 step scales for constant CIELAB hue 90/360 = 0.25 (left)

Output: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 107/360 = 0.298
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

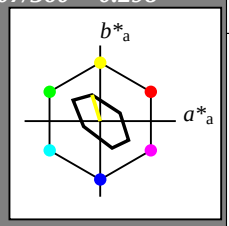
n^* = 1,0

3 step scales for constant CIELAB hue 107/360 = 0.298 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 107/360 = 0.298**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

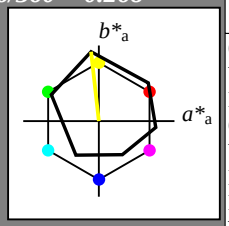
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.12	45.87
*LAB*TCHa*	75.0	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.84
*LAB*LABa*	54.19	−5.12	45.87
*LAB*TCHa*	25.01	46.15	96.38

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.36	−11.15	96.15
*LAB*LABa*	90.36	−10.25	91.73
*LAB*TCHa*	50.0	92.3	96.38

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 107/360 = 0.298 (left)

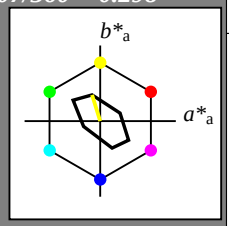
3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 107/360 = 0.298
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

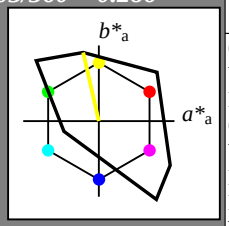
NE100−7, 3 step scales for constant CIELAB hue 107/360 = 0.298 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 103/360 = 0.286
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 93 93 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.03	−10.34	45.37
*LAB*LABa*	94.03	−10.34	45.37
*LAB*TCHa*	75.0	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.985	−0.11	0.487
*lab*tch*	0.75	0.5	0.286
*lab*nch*	0.0	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.985	−0.116	0.486
*lab*tce*	0.75	0.5	0.288
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.34	−10.34	45.37
*LAB*LABa*	46.34	−10.34	45.37
*LAB*TCHa*	25.01	46.53	102.85

relative* CIELAB *lab*

*lab*lab*	0.486	−0.11	0.487
*lab*tch*	0.25	0.5	0.286
*lab*nch*	0.5	0.5	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.486	−0.116	0.486
*lab*tce*	0.25	0.5	0.288
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.65	−20.69	90.73
*LAB*LABa*	92.65	−20.69	90.73
*LAB*TCHa*	50.0	93.06	102.85

relative* CIELAB *lab*

*lab*lab*	0.971	−0.221	0.975
*lab*tch*	0.5	1.0	0.286
*lab*nch*	0.0	1.0	0.286

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.233	0.972
*lab*tce*	0.5	1.0	0.288
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

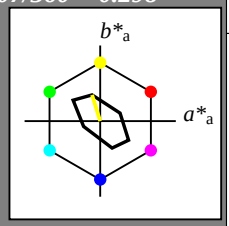
3 step scales for constant CIELAB hue 103/360 = 0.286 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = lab*h = 107/360 = 0.298**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

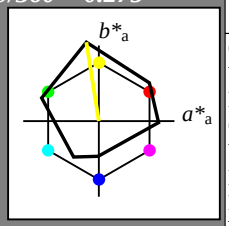
chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX

for hue *h = lab*h = 99/360 = 0.275**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 106 99
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.31	−8.42	54.72
*LAB*LABa*	93.31	−8.25	52.15
*LAB*TCHa*	75.0	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.962	−0.077	0.494
*lab*tch*	0.75	0.5	0.275
*lab*nch*	0.0	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.962	−0.073	0.494
*lab*tce*	0.75	0.5	0.274
*lab*ncE*	0.0	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−9.07	54.46
*LAB*LABa*	53.44	−8.25	52.15
*LAB*TCHa*	25.01	52.8	99.0

relative* CIELAB *lab*

*lab*lab*	0.462	−0.077	0.494
*lab*tch*	0.25	0.5	0.275
*lab*nch*	0.5	0.5	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.073	0.494
*lab*tce*	0.25	0.5	0.274
*lab*ncE*	0.5	0.5	j09g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−16.73	106.86
*LAB*LABa*	90.31	−16.51	104.31
*LAB*TCHa*	50.0	105.61	99.0

relative* CIELAB *lab*

*lab*lab*	0.925	−0.155	0.987
*lab*tch*	0.5	1.0	0.275
*lab*nch*	0.0	1.0	0.275

***relative* Natural Colour (NC)**

*lab*lrj*	0.925	−0.148	0.989
*lab*tce*	0.5	1.0	0.274
*lab*ncE*	0.0	1.0	j09g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

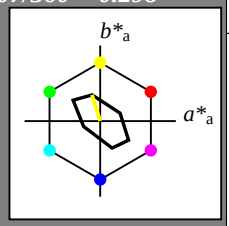
NE100−7, 3 step scales for constant CIELAB hue 107/360 = 0.298 (left)

3 step scales for constant CIELAB hue 99/360 = 0.275 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 107/360 = 0.298**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

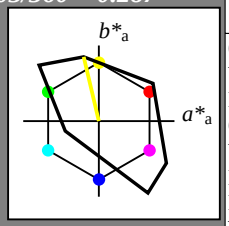
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 103/360 = 0.287**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 93 87 103
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.07	−10.0	42.48
*LAB*LABa*	94.07	−10.0	42.48
*LAB*TCHa*	75.0	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.983	−0.114	0.487
*lab*tch*	0.75	0.5	0.287
*lab*nch*	0.0	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.983	−0.121	0.485
*lab*tce*	0.75	0.5	0.289
*lab*ncE*	0.0	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	55.38	−10.0	42.48
*LAB*LABa*	55.38	−10.0	42.48
*LAB*TCHa*	25.01	43.64	103.26

relative* CIELAB *lab*

*lab*lab*	0.483	−0.114	0.487
*lab*tch*	0.25	0.5	0.287
*lab*nch*	0.5	0.5	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.483	−0.121	0.485
*lab*tce*	0.25	0.5	0.289
*lab*ncE*	0.5	0.5	j15g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.73	−20.02	84.95
*LAB*LABa*	92.73	−20.02	84.95
*LAB*TCHa*	50.0	87.28	103.26

relative* CIELAB *lab*

*lab*lab*	0.965	−0.228	0.973
*lab*tch*	0.5	1.0	0.287
*lab*nch*	0.0	1.0	0.287

***relative* Natural Colour (NC)**

*lab*lrj*	0.965	−0.243	0.97
*lab*tce*	0.5	1.0	0.289
*lab*ncE*	0.0	1.0	j15g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

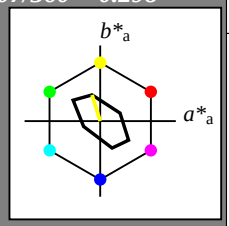
NE100−7, 3 step scales for constant CIELAB hue 107/360 = 0.298 (left)

3 step scales for constant CIELAB hue 103/360 = 0.287 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 107/360 = 0.298**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

***n** = 0,00**

blackness *n**

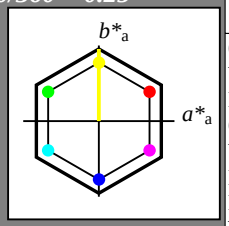
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 64 95 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	0.0	47.69
*LAB*LABa*	79.5	0.0	47.69
*LAB*TCHa*	75.0	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	47.69
*LAB*LABa*	31.81	0.0	47.69
*LAB*TCHa*	25.01	47.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	95.38
*LAB*LABa*	63.61	0.0	95.38
*LAB*TCHa*	50.0	95.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

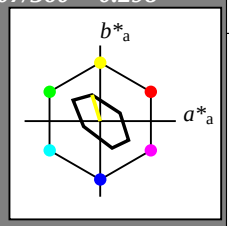
NE100−7, 3 step scales for constant CIELAB hue 107/360 = 0.298 (left)

3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 107/360 = 0.298**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

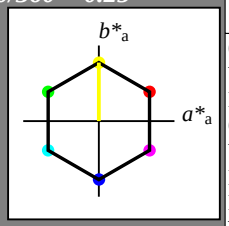
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 70 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	0.0	38.69
*LAB*LABa*	82.5	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	38.69
*LAB*LABa*	43.81	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	77.38
*LAB*LABa*	69.61	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

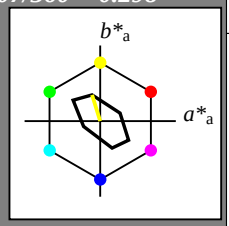
NE100−7, 3 step scales for constant CIELAB hue 107/360 = 0.298 (left)

3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 107/360 = 0.298**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

n^* = 0,00

blackness n^*

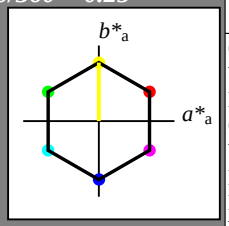
0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 90/360 = 0.25**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 57 77 90
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	38.69
*LAB*LABa*	76.06	0.0	38.69
*LAB*TCHa*	75.0	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	0.5
*lab*tch*	0.75	0.5	0.25
*lab*nch*	0.0	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.027	0.499
*lab*tce*	0.75	0.5	0.241
*lab*ncE*	0.0	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	38.69
*LAB*LABa*	37.36	0.0	38.69
*LAB*TCHa*	25.01	38.69	90.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	0.5
*lab*tch*	0.25	0.5	0.25
*lab*nch*	0.5	0.5	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.027	0.499
*lab*tce*	0.25	0.5	0.241
*lab*ncE*	0.5	0.5	r96j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	77.38
*LAB*LABa*	56.71	0.0	77.38
*LAB*TCHa*	50.0	77.38	90.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	1.0
*lab*tch*	0.5	1.0	0.25
*lab*nch*	0.0	1.0	0.25

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.054	0.998
*lab*tce*	0.5	1.0	0.241
*lab*ncE*	0.0	1.0	r96j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

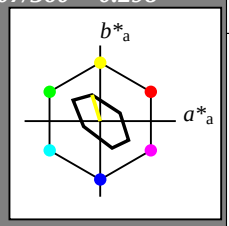
NE100−7, 3 step scales for constant CIELAB hue 107/360 = 0.298 (left)

3 step scales for constant CIELAB hue 90/360 = 0.25 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 107/360 = 0.298**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***n** = 0,50**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

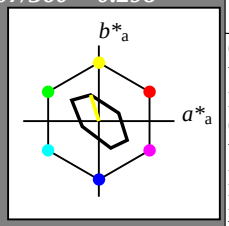
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 107/360 = 0.298 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 107/360 = 0.298**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 94 36 107
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	94.67	−5.37	17.31
*LAB*LABa*	94.67	−5.37	17.31
*LAB*TCHa*	75.0	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.971	−0.147	0.477
*lab*tch*	0.75	0.5	0.298
*lab*nch*	0.0	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	−0.164	0.472
*lab*tce*	0.75	0.5	0.304
*lab*ncE*	0.0	0.5	j21g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.82	−5.37	17.31
*LAB*LABa*	81.82	−5.37	17.31
*LAB*TCHa*	25.01	18.13	107.28

relative* CIELAB *lab*

*lab*lab*	0.471	−0.147	0.477
*lab*tch*	0.25	0.5	0.298
*lab*nch*	0.5	0.5	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	−0.164	0.472
*lab*tce*	0.25	0.5	0.304
*lab*ncE*	0.5	0.5	j21g

***n** = 0,50**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.93	−10.76	34.62
*LAB*LABa*	93.93	−10.76	34.62
*LAB*TCHa*	50.0	36.26	107.28

relative* CIELAB *lab*

*lab*lab*	0.942	−0.296	0.955
*lab*tch*	0.5	1.0	0.298
*lab*nch*	0.0	1.0	0.298

***relative* Natural Colour (NC)**

*lab*lrj*	0.942	−0.329	0.944
*lab*tce*	0.5	1.0	0.304
*lab*ncE*	0.0	1.0	j21g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

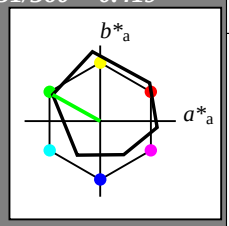
chromaticness *c**

3 step scales for constant CIELAB hue 107/360 = 0.298 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

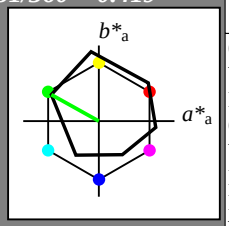
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

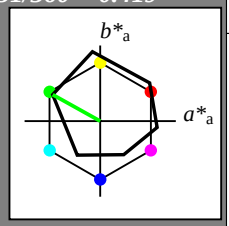
NE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

$n^* = 0{,}00$

blackness *n**

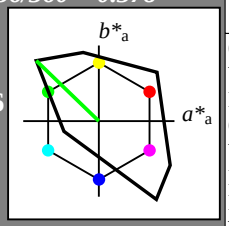
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 136/360 = 0.378**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

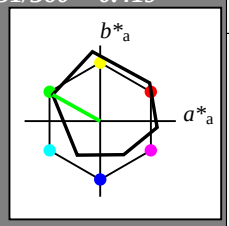
NE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 136/360 = 0.378 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

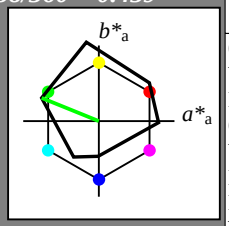
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 158/360 = 0.439**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

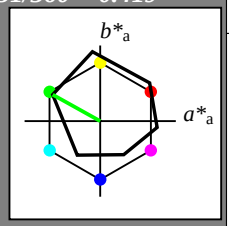
3 step scales for constant CIELAB hue 158/360 = 0.439 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 151/360 = 0.419
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

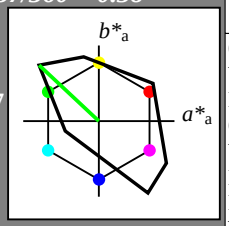
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 137/360 = 0.38
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

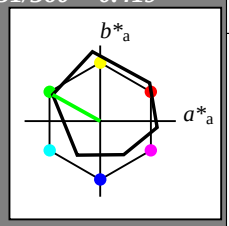
NE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 137/360 = 0.38 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

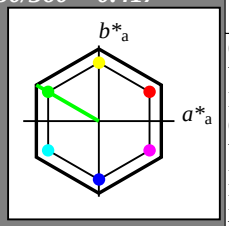
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

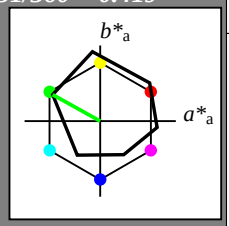
3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 151/360 = 0.419
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

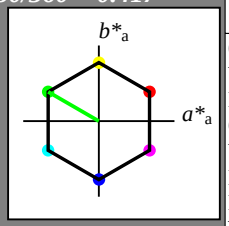
chromaticness c^*

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 150/360 = 0.417
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 44 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−33.5	19.35
*LAB*LABa*	69.61	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	−33.5	19.35
*LAB*LABa*	30.92	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−67.01	38.69
*LAB*LABa*	43.81	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

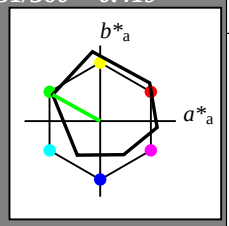
3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 151/360 = 0.419
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

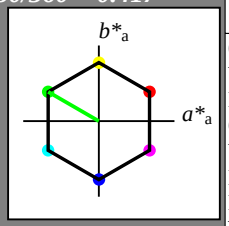
NE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 150/360 = 0.417
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

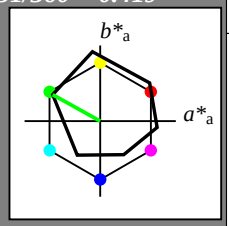
3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

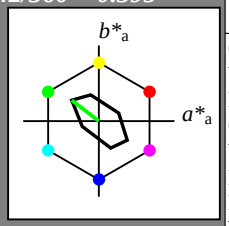
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 142/360 = 0.395**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

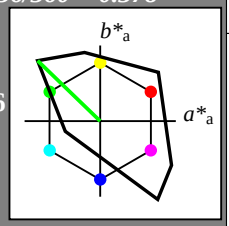
NE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 142/360 = 0.395 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 136/360 = 0.378**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

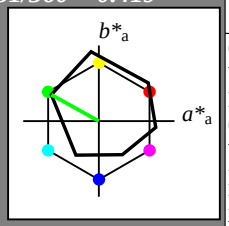
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 136/360 = 0.378 (left)

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

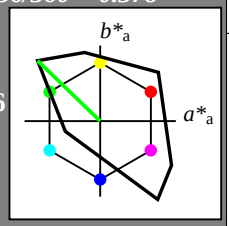
chromaticness *c**

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 136/360 = 0.378**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

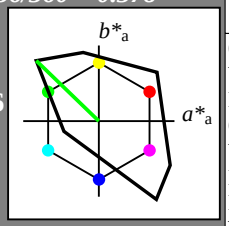
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 136/360 = 0.378 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 136/360 = 0.378**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

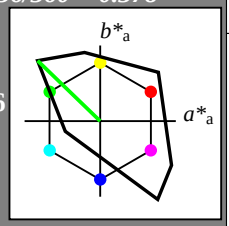
*n** = 1,0

3 step scales for constant CIELAB hue 136/360 = 0.378 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 136/360 = 0.378**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

$n^* = 0{,}00$

blackness *n**

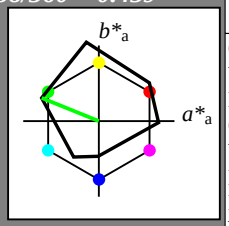
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 158/360 = 0.439**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 136/360 = 0.378 (left)

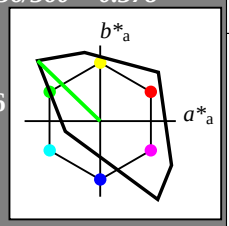
3 step scales for constant CIELAB hue 158/360 = 0.439 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 136/360 = 0.378
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness ***c****

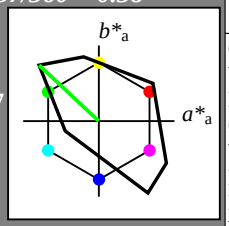
NE100−7, 3 step scales for constant CIELAB hue 136/360 = 0.378 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 137/360 = 0.38
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 118
%Regularity
g*$_{H,rel}$ = 22
g*$_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness ***c****

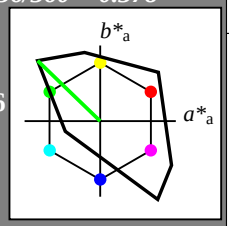
3 step scales for constant CIELAB hue 137/360 = 0.38 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h* = lab*h = 136/360 = 0.378*
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

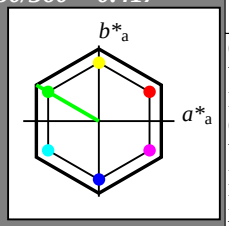
NE100−7, 3 step scales for constant CIELAB hue 136/360 = 0.378 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h* = lab*h = 150/360 = 0.417*
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

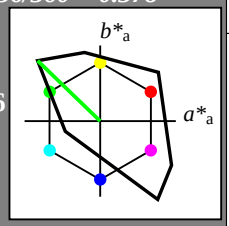
chromaticness *c**

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 136/360 = 0.378**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

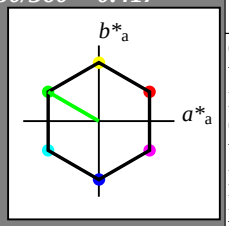
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 44 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−33.5	19.35
*LAB*LABa*	69.61	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	−33.5	19.35
*LAB*LABa*	30.92	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−67.01	38.69
*LAB*LABa*	43.81	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

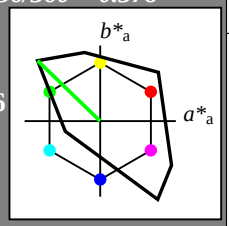
NE100−7, 3 step scales for constant CIELAB hue 136/360 = 0.378 (left)

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 136/360 = 0.378**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

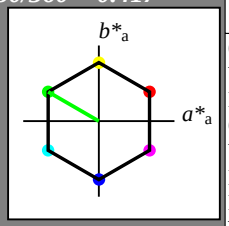
chromaticness *c**

*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 136/360 = 0.378 (left)

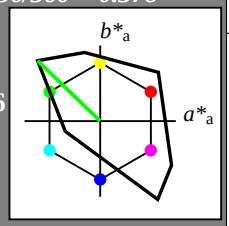
3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 136/360 = 0.378
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

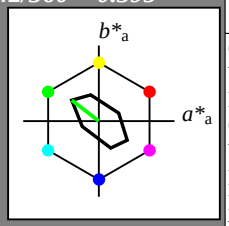
NE100−7, 3 step scales for constant CIELAB hue 136/360 = 0.378 (left)

Output: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 142/360 = 0.395
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

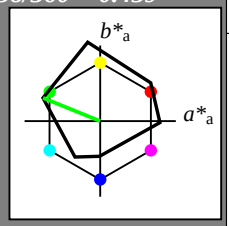
*n** = 1,0

3 step scales for constant CIELAB hue 142/360 = 0.395 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 158/360 = 0.439**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

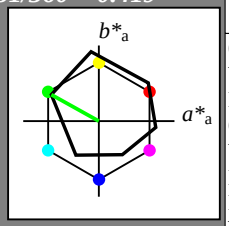
chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 158/360 = 0.439 (left)

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

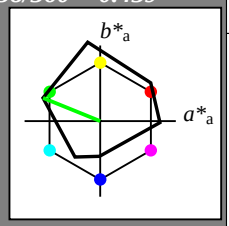
chromaticness c^*

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 158/360 = 0.439**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

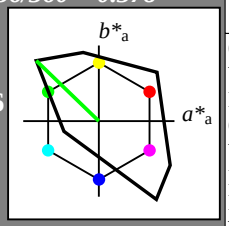
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 136/360 = 0.378**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

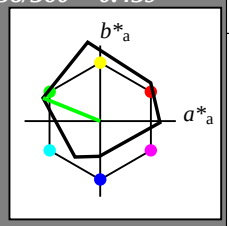
NE100−7, 3 step scales for constant CIELAB hue 158/360 = 0.439 (left)

3 step scales for constant CIELAB hue 136/360 = 0.378 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 158/360 = 0.439**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

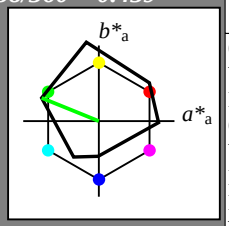
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 158/360 = 0.439 (left)

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 158/360 = 0.439**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

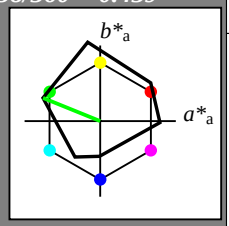
*n** = 1,0

3 step scales for constant CIELAB hue 158/360 = 0.439 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 158/360 = 0.439**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

***n** = 0,00**

blackness *n**

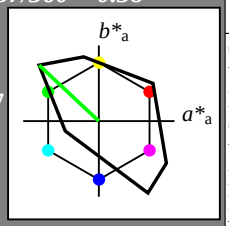
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 137/360 = 0.38**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

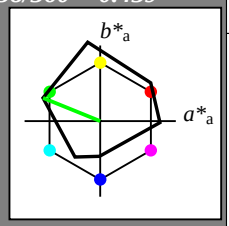
NE100−7, 3 step scales for constant CIELAB hue 158/360 = 0.439 (left)

3 step scales for constant CIELAB hue 137/360 = 0.38 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 158/360 = 0.439**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

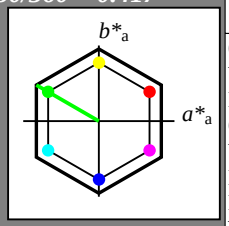
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 158/360 = 0.439 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

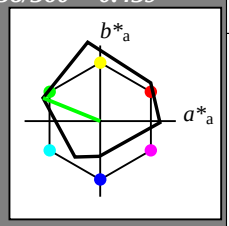
*n** = 1,0

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 158/360 = 0.439**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

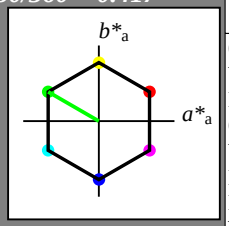
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 158/360 = 0.439 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 44 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−33.5	19.35
*LAB*LABa*	69.61	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	−33.5	19.35
*LAB*LABa*	30.92	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−67.01	38.69
*LAB*LABa*	43.81	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

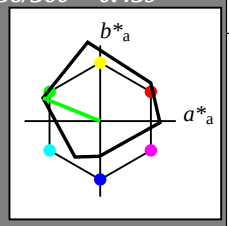
3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 158/360 = 0.439
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

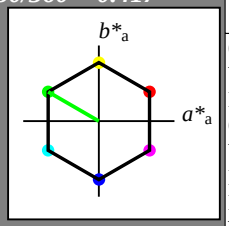
NE100−7, 3 step scales for constant CIELAB hue 158/360 = 0.439 (left)

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 150/360 = 0.417
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

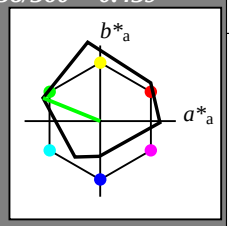
3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h* = lab*h = 158/360 = 0.439*
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

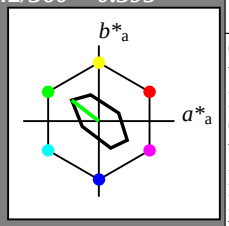
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h* = lab*h = 142/360 = 0.395*
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 158/360 = 0.439 (left)

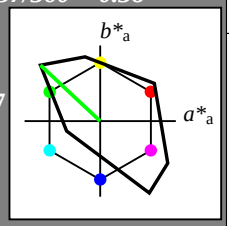
3 step scales for constant CIELAB hue 142/360 = 0.395 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 137/360 = 0.38*
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

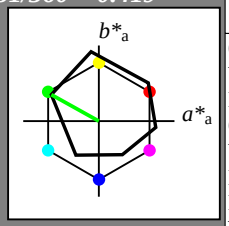
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h* = lab*h = 151/360 = 0.419*
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 137/360 = 0.38 (left)

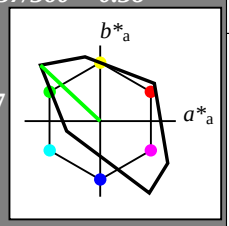
3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 137/360 = 0.38*
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

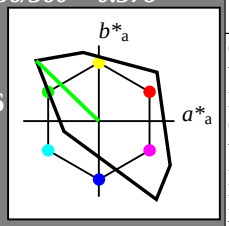
NE100−7, 3 step scales for constant CIELAB hue 137/360 = 0.38 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h* = lab*h = 136/360 = 0.378*
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

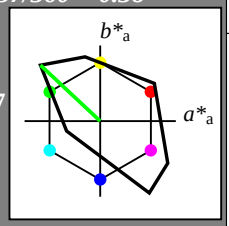
*n** = 1,0

3 step scales for constant CIELAB hue 136/360 = 0.378 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 137/360 = 0.38**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

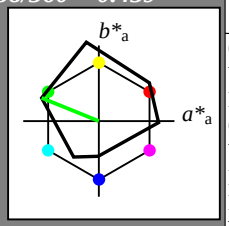
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 158/360 = 0.439**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

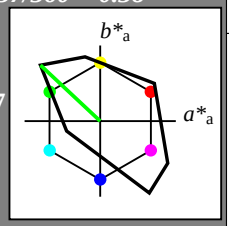
NE100−7, 3 step scales for constant CIELAB hue 137/360 = 0.38 (left)

3 step scales for constant CIELAB hue 158/360 = 0.439 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 137/360 = 0.38**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

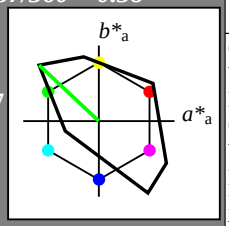
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 137/360 = 0.38**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

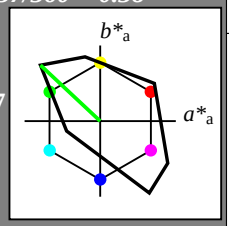
NE100−7, 3 step scales for constant CIELAB hue 137/360 = 0.38 (left)

3 step scales for constant CIELAB hue 137/360 = 0.38 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 137/360 = 0.38**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

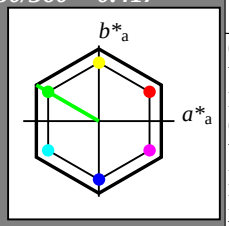
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

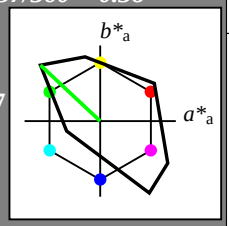
NE100−7, 3 step scales for constant CIELAB hue 137/360 = 0.38 (left)

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 137/360 = 0.38**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

***n** = 0,00**

blackness *n**

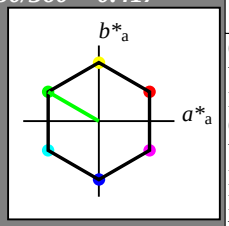
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 44 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−33.5	19.35
*LAB*LABa*	69.61	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	−33.5	19.35
*LAB*LABa*	30.92	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−67.01	38.69
*LAB*LABa*	43.81	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

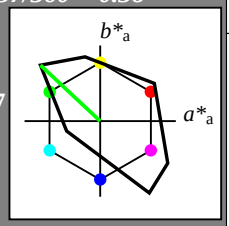
NE100−7, 3 step scales for constant CIELAB hue 137/360 = 0.38 (left)

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 137/360 = 0.38**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

***n** = 0,00**

blackness *n**

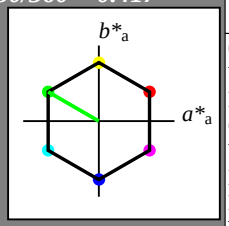
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 137/360 = 0.38 (left)

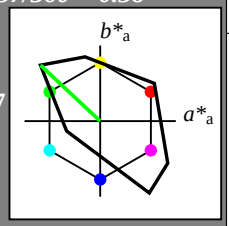
3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 137/360 = 0.38**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

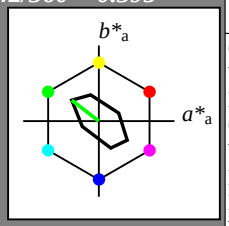
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 142/360 = 0.395**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 137/360 = 0.38 (left)

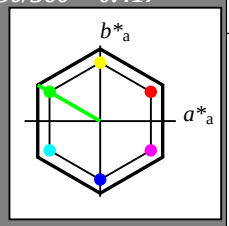
3 step scales for constant CIELAB hue 142/360 = 0.395 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

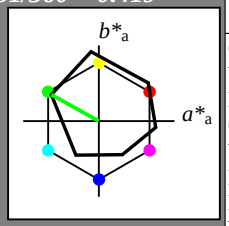
$n^* = 1{,}0$

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

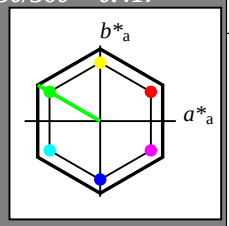
3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = lab*h = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

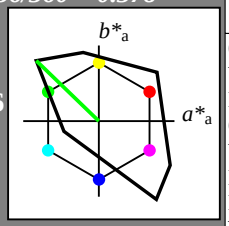
$n^* = 1{,}0$

Output: Colorimetric Television Luminous System TLS00

for hue *h = lab*h = 136/360 = 0.378**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

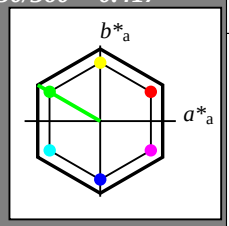
NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

3 step scales for constant CIELAB hue 136/360 = 0.378 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

***n** = 0,00**

blackness *n**

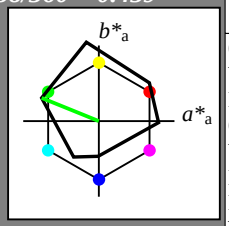
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 158/360 = 0.439**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

***n** = 0,00**

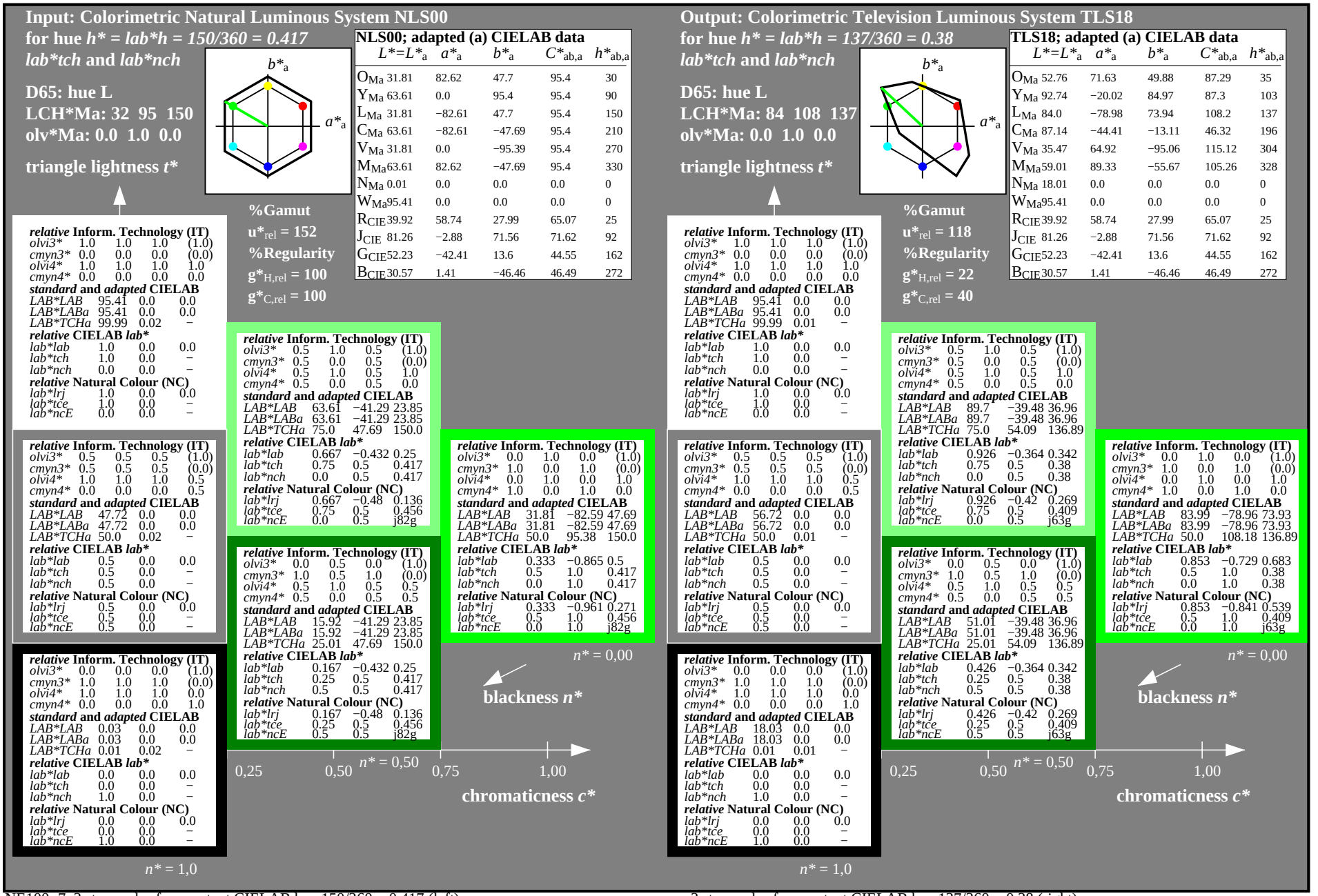
blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

3 step scales for constant CIELAB hue 158/360 = 0.439 (right)



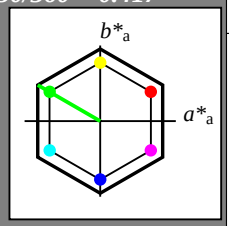
NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

3 step scales for constant CIELAB hue 137/360 = 0.38 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

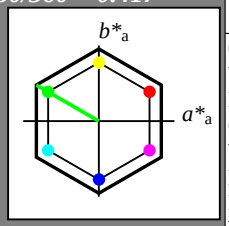
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

*n** = 0,50

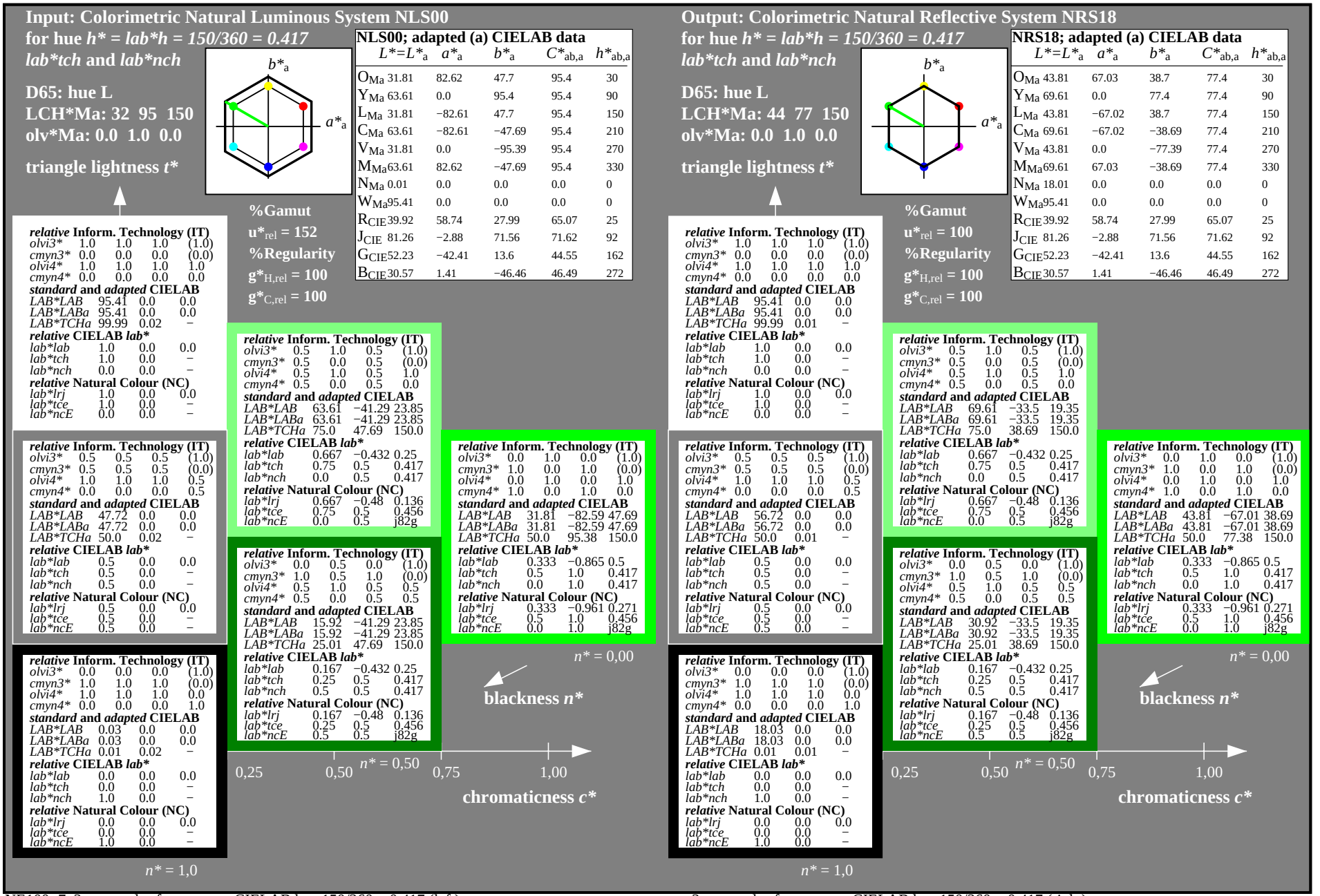
0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)



NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

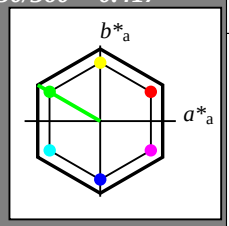
3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

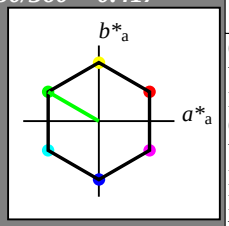
NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

Output: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

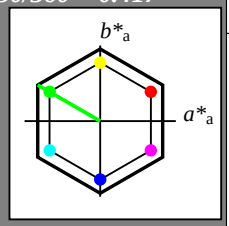
*n** = 1,0

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

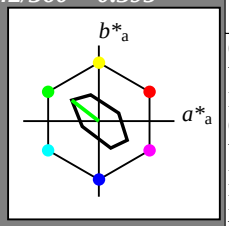
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 142/360 = 0.395**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

$n^* = 0{,}00$

blackness *n**

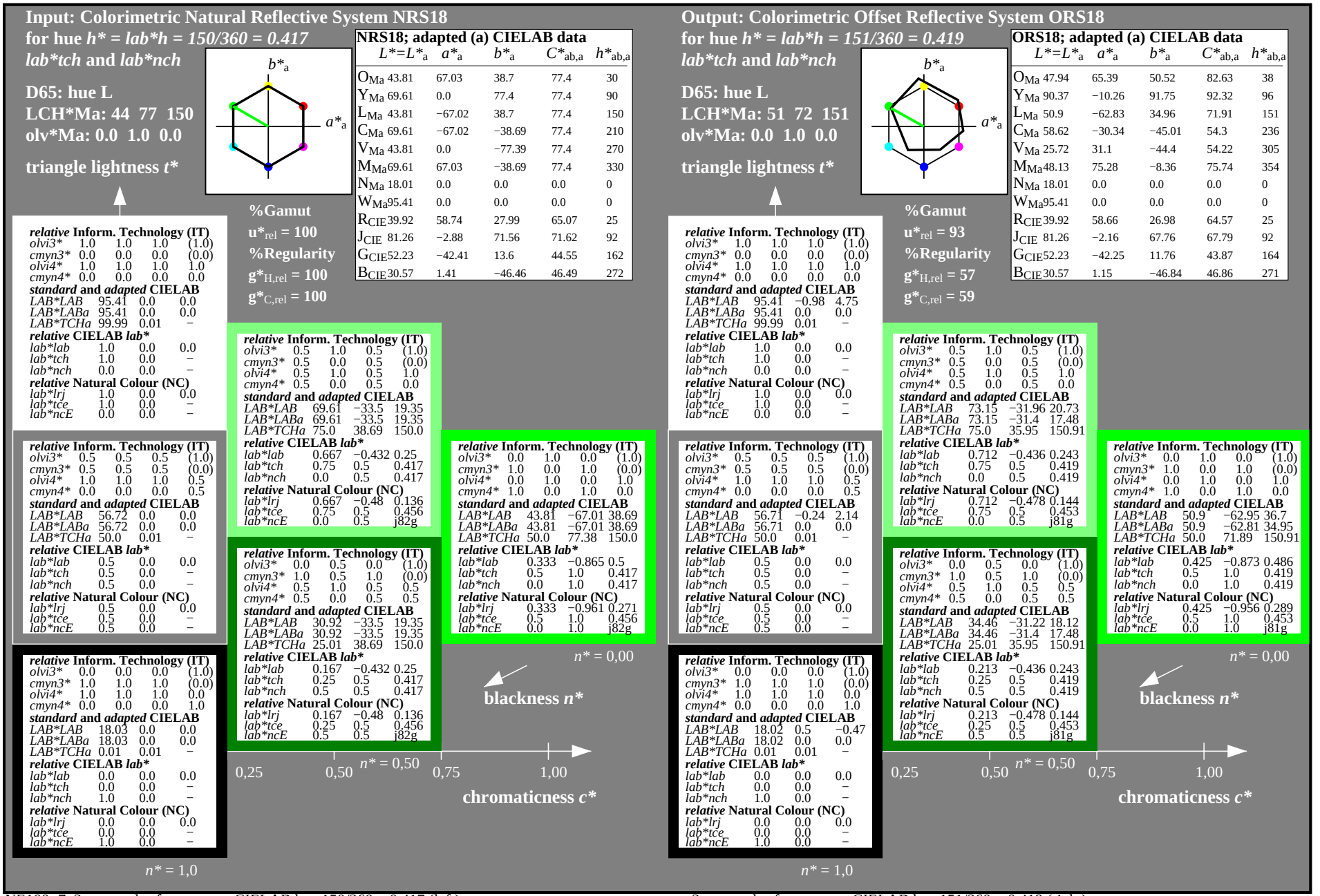
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

3 step scales for constant CIELAB hue 142/360 = 0.395 (right)



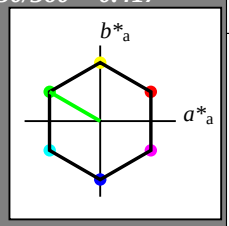
NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 44 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−33.5	19.35
*LAB*LABa*	69.61	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	−33.5	19.35
*LAB*LABa*	30.92	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−67.01	38.69
*LAB*LABa*	43.81	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

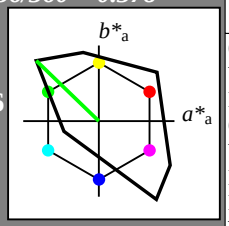
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 136/360 = 0.378**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

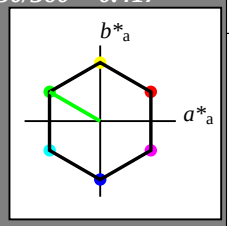
3 step scales for constant CIELAB hue 136/360 = 0.378 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 150/360 = 0.417
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 44 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−33.5	19.35
*LAB*LABa*	69.61	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	−33.5	19.35
*LAB*LABa*	30.92	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−67.01	38.69
*LAB*LABa*	43.81	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

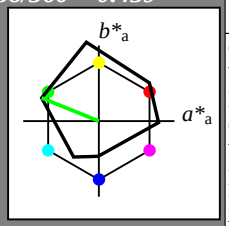
*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 158/360 = 0.439
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

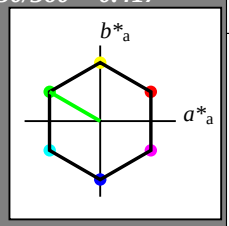
3 step scales for constant CIELAB hue 158/360 = 0.439 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = lab*h = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 44 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−33.5	19.35
*LAB*LABa*	69.61	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	−33.5	19.35
*LAB*LABa*	30.92	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−67.01	38.69
*LAB*LABa*	43.81	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

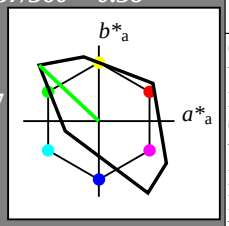
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h = lab*h = 137/360 = 0.38**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

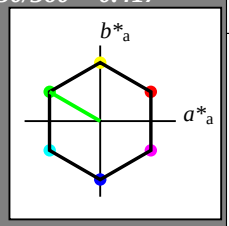
3 step scales for constant CIELAB hue 137/360 = 0.38 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 44 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−33.5	19.35
*LAB*LABa*	69.61	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	−33.5	19.35
*LAB*LABa*	30.92	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−67.01	38.69
*LAB*LABa*	43.81	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

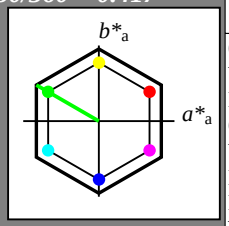
NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

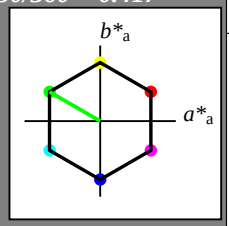
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 44 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−33.5	19.35
*LAB*LABa*	69.61	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	−33.5	19.35
*LAB*LABa*	30.92	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−67.01	38.69
*LAB*LABa*	43.81	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

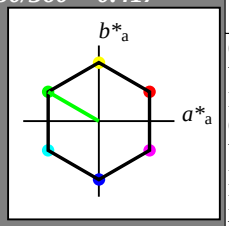
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 44 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−33.5	19.35
*LAB*LABa*	69.61	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	−33.5	19.35
*LAB*LABa*	30.92	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−67.01	38.69
*LAB*LABa*	43.81	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

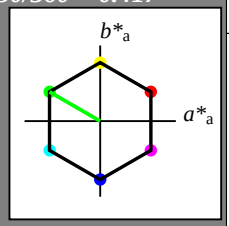
*n** = 1,0

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 44 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−33.5	19.35
*LAB*LABa*	69.61	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	−33.5	19.35
*LAB*LABa*	30.92	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−67.01	38.69
*LAB*LABa*	43.81	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

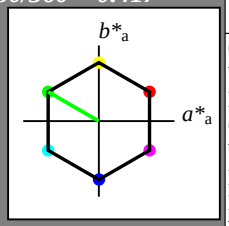
chromaticness *c**

*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

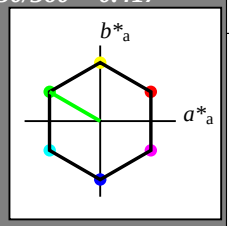
NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 44 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−33.5	19.35
*LAB*LABa*	69.61	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	−33.5	19.35
*LAB*LABa*	30.92	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−67.01	38.69
*LAB*LABa*	43.81	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

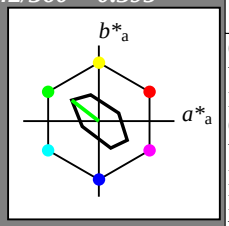
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 142/360 = 0.395**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

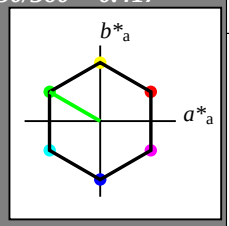
NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

3 step scales for constant CIELAB hue 142/360 = 0.395 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

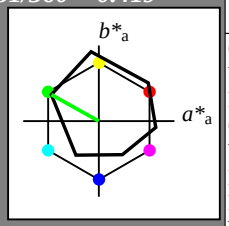
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

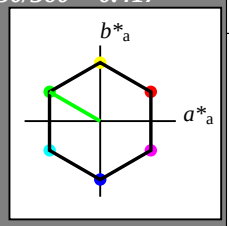
*n** = 1,0

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

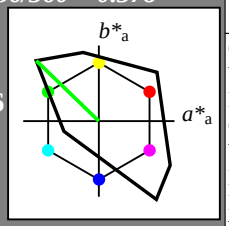
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 136/360 = 0.378**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

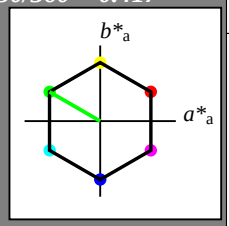
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 136/360 = 0.378 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

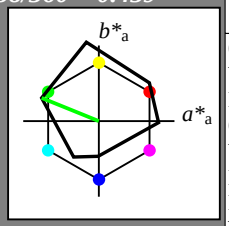
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 158/360 = 0.439**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

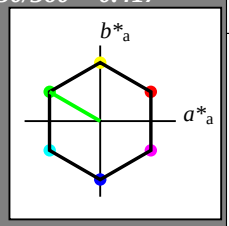
*n** = 1,0

3 step scales for constant CIELAB hue 158/360 = 0.439 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

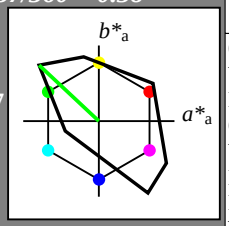
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 137/360 = 0.38**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

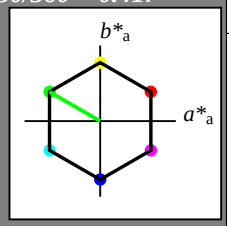
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 137/360 = 0.38 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

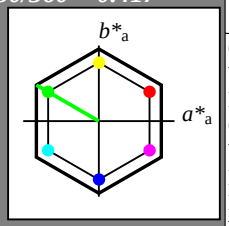
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

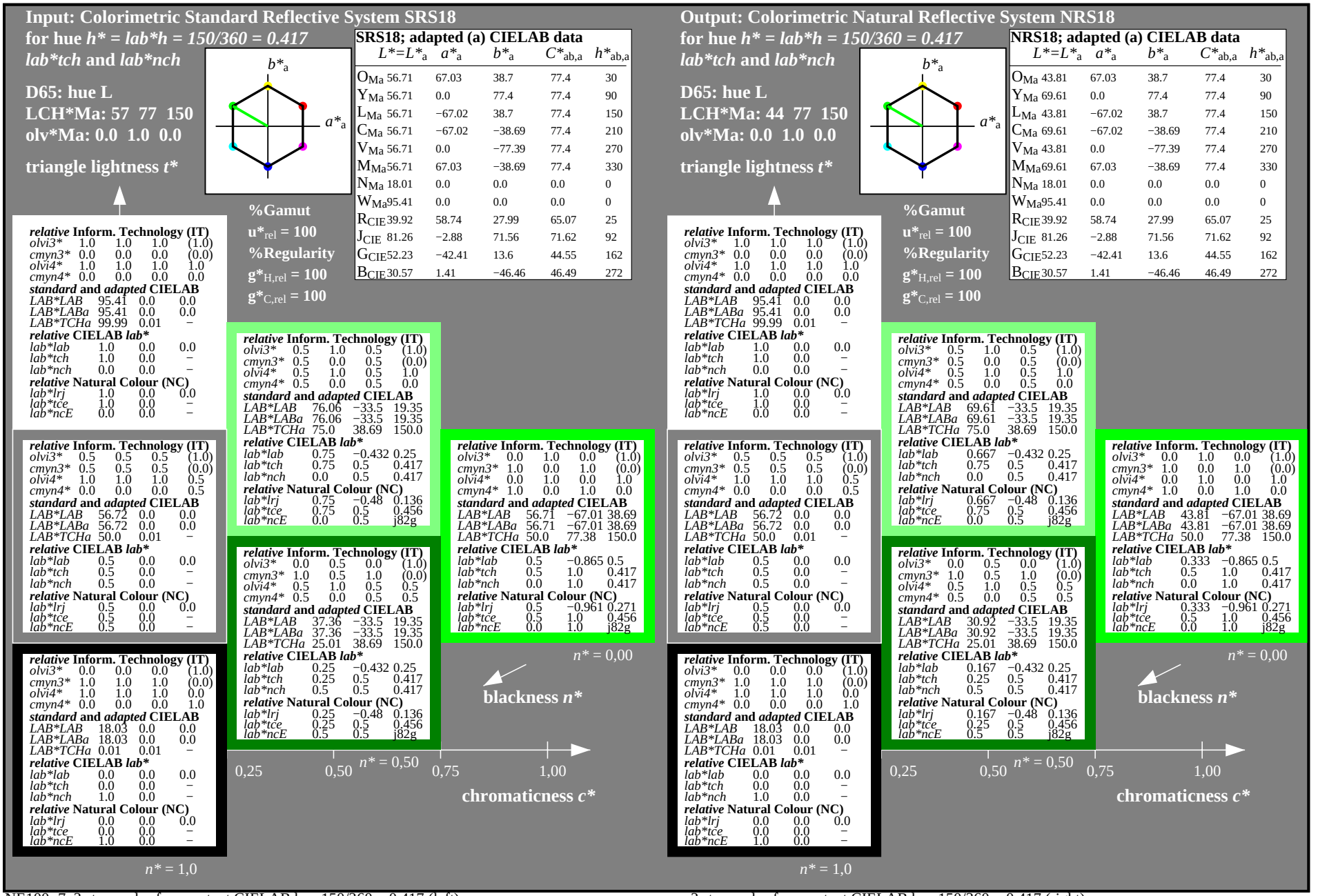
blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)



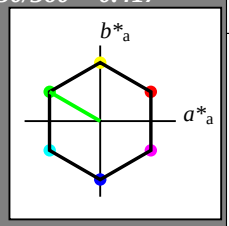
NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

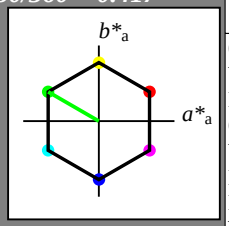
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

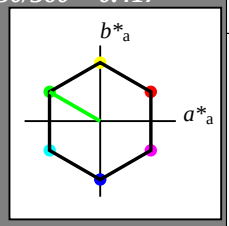
3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

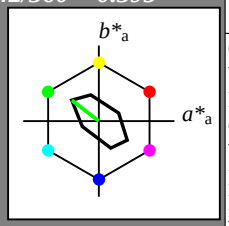
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 142/360 = 0.395**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 150/360 = 0.417 (left)

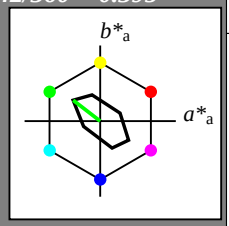
3 step scales for constant CIELAB hue 142/360 = 0.395 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 142/360 = 0.395**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

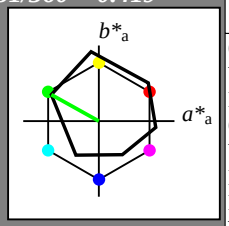
chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.96	20.73
*LAB*LABa*	73.15	−31.4	17.48
*LAB*TCHa*	75.0	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.22	18.12
*LAB*LABa*	34.46	−31.4	17.48
*LAB*TCHa*	25.01	35.95	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.95	36.7
*LAB*LABa*	50.9	−62.81	34.95
*LAB*TCHa*	50.0	71.89	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

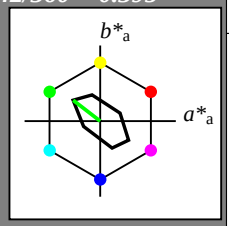
NE100−7, 3 step scales for constant CIELAB hue 142/360 = 0.395 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 142/360 = 0.395**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

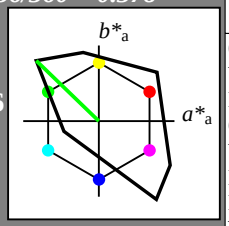
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 136/360 = 0.378**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 84 115 136
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.51	−41.36	39.94
*LAB*LABa*	89.51	−41.36	39.94
*LAB*TCHa*	75.0	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.938	−0.359	0.347
*lab*tch*	0.75	0.5	0.378
*lab*nch*	0.0	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.938	−0.415	0.278
*lab*tce*	0.75	0.5	0.406
*lab*ncE*	0.0	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.82	−41.36	39.94
*LAB*LABa*	41.82	−41.36	39.94
*LAB*TCHa*	25.01	57.51	136.01

relative* CIELAB *lab*

*lab*lab*	0.438	−0.359	0.347
*lab*tch*	0.25	0.5	0.378
*lab*nch*	0.5	0.5	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.438	−0.415	0.278
*lab*tce*	0.25	0.5	0.406
*lab*ncE*	0.5	0.5	j62g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.62	−82.73	79.88
*LAB*LABa*	83.62	−82.73	79.88
*LAB*TCHa*	50.0	115.01	136.01

relative* CIELAB *lab*

*lab*lab*	0.876	−0.718	0.694
*lab*tch*	0.5	1.0	0.378
*lab*nch*	0.0	1.0	0.378

***relative* Natural Colour (NC)**

*lab*lrj*	0.876	−0.83	0.555
*lab*tce*	0.5	1.0	0.406
*lab*ncE*	0.0	1.0	j62g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

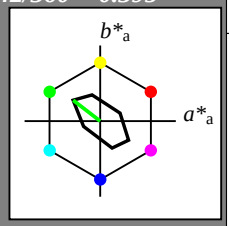
NE100−7, 3 step scales for constant CIELAB hue 142/360 = 0.395 (left)

3 step scales for constant CIELAB hue 136/360 = 0.378 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 142/360 = 0.395**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

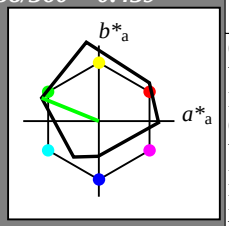
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 158/360 = 0.439**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 48 82 158
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.26	−38.31	17.76
*LAB*LABa*	72.26	−37.8	15.32
*LAB*TCHa*	75.0	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.698	−0.462	0.188
*lab*tch*	0.75	0.5	0.439
*lab*nch*	0.0	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.698	−0.493	0.074
*lab*tce*	0.75	0.5	0.476
*lab*ncE*	0.0	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.39	−38.96	17.5
*LAB*LABa*	32.39	−37.8	15.32
*LAB*TCHa*	25.01	40.8	157.94

relative* CIELAB *lab*

*lab*lab*	0.198	−0.462	0.188
*lab*tch*	0.25	0.5	0.439
*lab*nch*	0.5	0.5	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.198	−0.493	0.074
*lab*tce*	0.25	0.5	0.476
*lab*ncE*	0.5	0.5	j90g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	−76.51	32.92
*LAB*LABa*	48.21	−75.61	30.65
*LAB*TCHa*	50.0	81.6	157.94

relative* CIELAB *lab*

*lab*lab*	0.397	−0.926	0.376
*lab*tch*	0.5	1.0	0.439
*lab*nch*	0.0	1.0	0.439

***relative* Natural Colour (NC)**

*lab*lrj*	0.397	−0.988	0.148
*lab*tce*	0.5	1.0	0.476
*lab*ncE*	0.0	1.0	j90g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 142/360 = 0.395 (left)

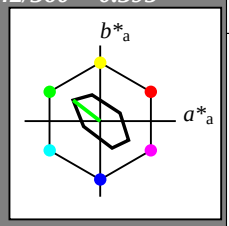
3 step scales for constant CIELAB hue 158/360 = 0.439 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 142/360 = 0.395
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

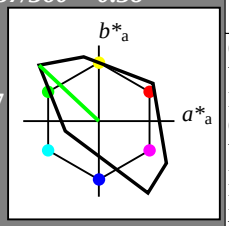
NE100−7, 3 step scales for constant CIELAB hue 142/360 = 0.395 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 137/360 = 0.38
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 84 108 137
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.7	−39.48	36.96
*LAB*LABa*	89.7	−39.48	36.96
*LAB*TCHa*	75.0	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.926	−0.364	0.342
*lab*tch*	0.75	0.5	0.38
*lab*nch*	0.0	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.926	−0.42	0.269
*lab*tce*	0.75	0.5	0.409
*lab*ncE*	0.0	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.01	−39.48	36.96
*LAB*LABa*	51.01	−39.48	36.96
*LAB*TCHa*	25.01	54.09	136.89

relative* CIELAB *lab*

*lab*lab*	0.426	−0.364	0.342
*lab*tch*	0.25	0.5	0.38
*lab*nch*	0.5	0.5	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.426	−0.42	0.269
*lab*tce*	0.25	0.5	0.409
*lab*ncE*	0.5	0.5	j63g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.99	−78.96	73.93
*LAB*LABa*	83.99	−78.96	73.93
*LAB*TCHa*	50.0	108.18	136.89

relative* CIELAB *lab*

*lab*lab*	0.853	−0.729	0.683
*lab*tch*	0.5	1.0	0.38
*lab*nch*	0.0	1.0	0.38

***relative* Natural Colour (NC)**

*lab*lrj*	0.853	−0.841	0.539
*lab*tce*	0.5	1.0	0.409
*lab*ncE*	0.0	1.0	j63g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

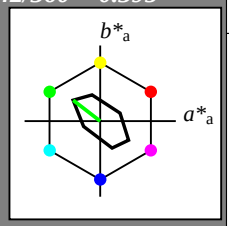
*n** = 1,0

3 step scales for constant CIELAB hue 137/360 = 0.38 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 142/360 = 0.395**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

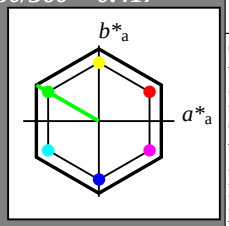
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 32 95 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−41.29	23.85
*LAB*LABa*	63.61	−41.29	23.85
*LAB*TCHa*	75.0	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	−41.29	23.85
*LAB*LABa*	15.92	−41.29	23.85
*LAB*TCHa*	25.01	47.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−82.59	47.69
*LAB*LABa*	31.81	−82.59	47.69
*LAB*TCHa*	50.0	95.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

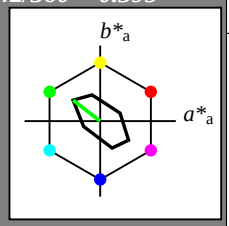
NE100−7, 3 step scales for constant CIELAB hue 142/360 = 0.395 (left)

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 142/360 = 0.395**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

***n** = 0,00**

blackness *n**

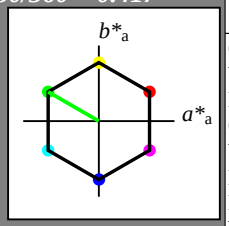
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 150/360 = 0.417**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 44 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−33.5	19.35
*LAB*LABa*	69.61	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	−33.5	19.35
*LAB*LABa*	30.92	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.167	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−67.01	38.69
*LAB*LABa*	43.81	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 142/360 = 0.395 (left)

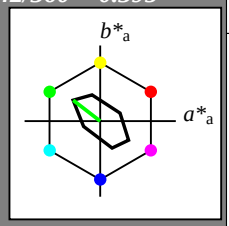
3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 142/360 = 0.395
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

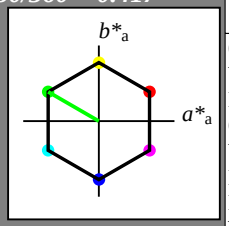
*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 150/360 = 0.417
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 57 77 150
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	19.35
*LAB*LABa*	76.06	−33.5	19.35
*LAB*TCHa*	75.0	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	0.25
*lab*tch*	0.75	0.5	0.417
*lab*nch*	0.0	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.48	0.136
*lab*tce*	0.75	0.5	0.456
*lab*ncE*	0.0	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	19.35
*LAB*LABa*	37.36	−33.5	19.35
*LAB*TCHa*	25.01	38.69	150.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	0.25
*lab*tch*	0.25	0.5	0.417
*lab*nch*	0.5	0.5	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.48	0.136
*lab*tce*	0.25	0.5	0.456
*lab*ncE*	0.5	0.5	j82g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	38.69
*LAB*LABa*	56.71	−67.01	38.69
*LAB*TCHa*	50.0	77.38	150.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	0.5
*lab*tch*	0.5	1.0	0.417
*lab*nch*	0.0	1.0	0.417

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.961	0.271
*lab*tce*	0.5	1.0	0.456
*lab*ncE*	0.0	1.0	j82g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

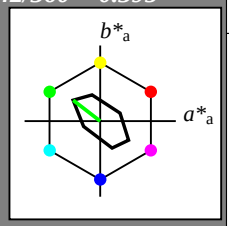
NE100−7, 3 step scales for constant CIELAB hue 142/360 = 0.395 (left)

3 step scales for constant CIELAB hue 150/360 = 0.417 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 142/360 = 0.395**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

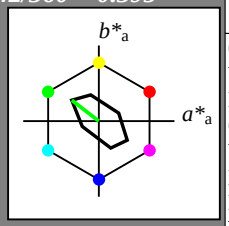
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 142/360 = 0.395 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 142/360 = 0.395**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 89 45 142
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.36	−17.89	13.82
*LAB*LABa*	92.36	−17.89	13.82
*LAB*TCHa*	75.0	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.881	−0.395	0.305
*lab*tch*	0.75	0.5	0.395
*lab*nch*	0.0	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	−0.45	0.216
*lab*tce*	0.75	0.5	0.429
*lab*ncE*	0.0	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.51	−17.89	13.82
*LAB*LABa*	79.51	−17.89	13.82
*LAB*TCHa*	25.01	22.61	142.34

relative* CIELAB *lab*

*lab*lab*	0.382	−0.395	0.305
*lab*tch*	0.25	0.5	0.395
*lab*nch*	0.5	0.5	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.382	−0.45	0.216
*lab*tce*	0.25	0.5	0.429
*lab*ncE*	0.5	0.5	j71g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.32	−35.79	27.63
*LAB*LABa*	89.32	−35.79	27.63
*LAB*TCHa*	50.0	45.23	142.34

relative* CIELAB *lab*

*lab*lab*	0.763	−0.79	0.611
*lab*tch*	0.5	1.0	0.395
*lab*nch*	0.0	1.0	0.395

***relative* Natural Colour (NC)**

*lab*lrj*	0.763	−0.901	0.432
*lab*tce*	0.5	1.0	0.429
*lab*ncE*	0.0	1.0	j71g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

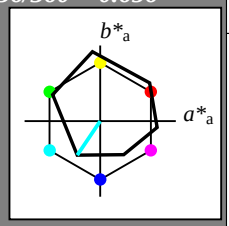
3 step scales for constant CIELAB hue 142/360 = 0.395 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

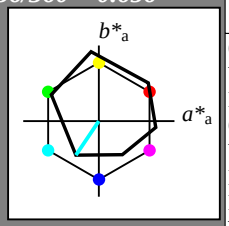
chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

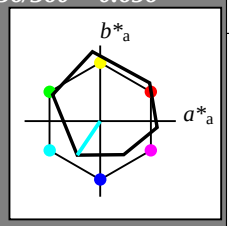
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 236/360 = 0.656
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

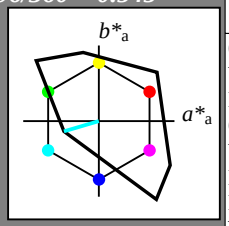
chromaticness c^*

Output: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 196/360 = 0.545
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

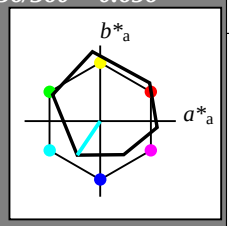
3 step scales for constant CIELAB hue 196/360 = 0.545 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 236/360 = 0.656
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

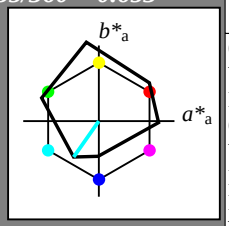
chromaticness c^*

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 235/360 = 0.653
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

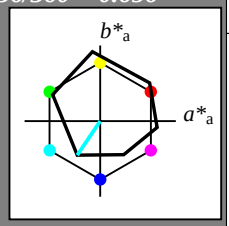
3 step scales for constant CIELAB hue 235/360 = 0.653 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

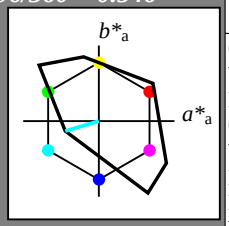
chromaticness *c**

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 196/360 = 0.546**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

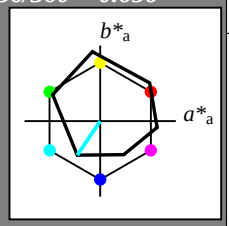
3 step scales for constant CIELAB hue 196/360 = 0.546 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 236/360 = 0.656
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

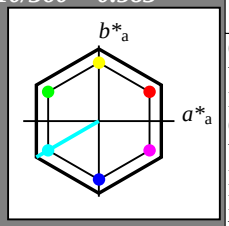
chromaticness c^*

Output: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 210/360 = 0.583
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

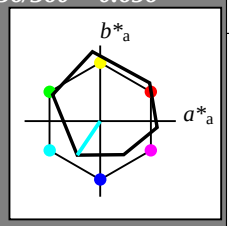
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 236/360 = 0.656
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

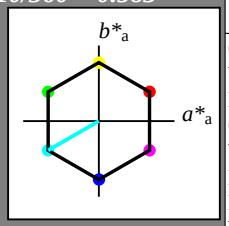
chromaticness c^*

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 210/360 = 0.583
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

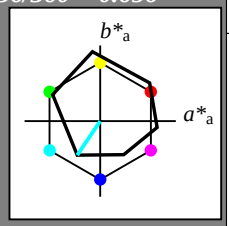
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

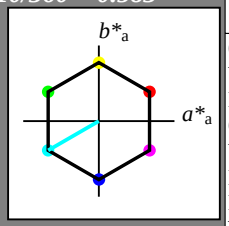
*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

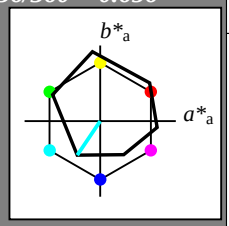
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

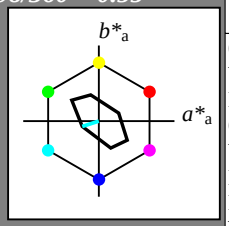
chromaticness *c**

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

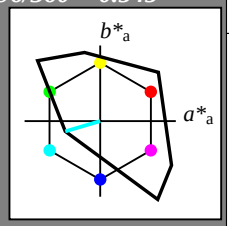
3 step scales for constant CIELAB hue 198/360 = 0.55 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 196/360 = 0.545
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

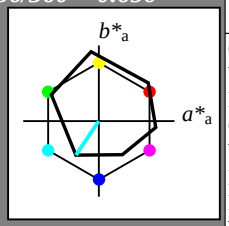
chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 236/360 = 0.656
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

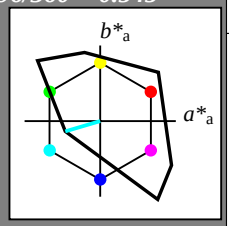
NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.545 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 196/360 = 0.545**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

***n** = 0,00**

blackness *n**

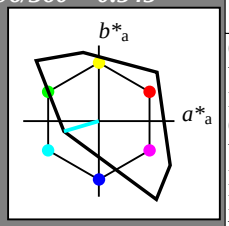
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 196/360 = 0.545**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

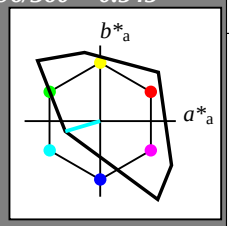
NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.545 (left)

3 step scales for constant CIELAB hue 196/360 = 0.545 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 196/360 = 0.545**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

*n** = 0,00

blackness *n**

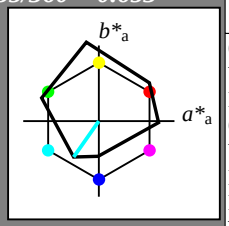
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 235/360 = 0.653**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.545 (left)

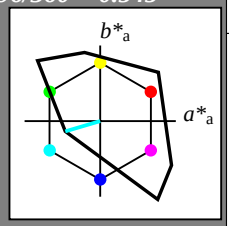
3 step scales for constant CIELAB hue 235/360 = 0.653 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 196/360 = 0.545
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

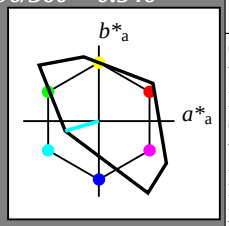
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 196/360 = 0.546
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 118
%Regularity
g*$_{H,rel}$ = 22
g*$_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.545 (left)

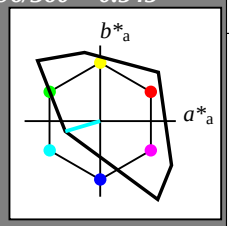
3 step scales for constant CIELAB hue 196/360 = 0.546 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 196/360 = 0.545**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

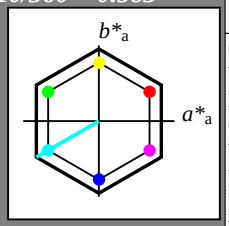
chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

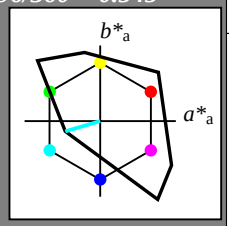
NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.545 (left)

3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 196/360 = 0.545**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

***n** = 0,00**

blackness *n**

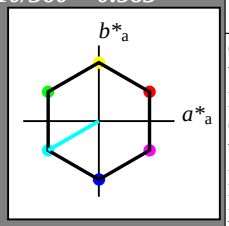
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.545 (left)

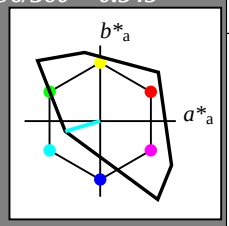
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 196/360 = 0.545
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

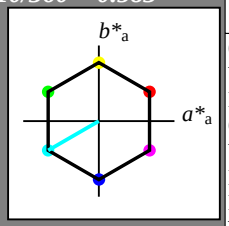
chromaticness c^*

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 210/360 = 0.583
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.545 (left)

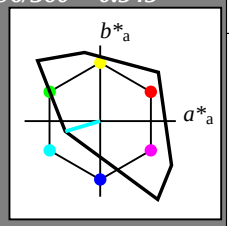
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 196/360 = 0.545**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

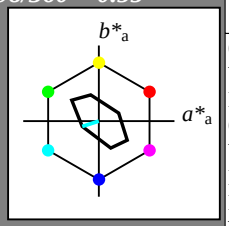
chromaticness *c**

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

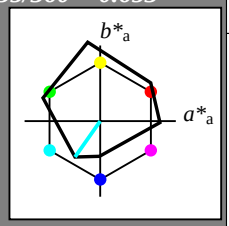
NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.545 (left)

3 step scales for constant CIELAB hue 198/360 = 0.55 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 235/360 = 0.653**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

***n** = 0,00**

blackness *n**

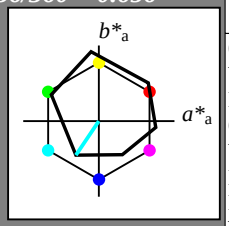
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 235/360 = 0.653 (left)

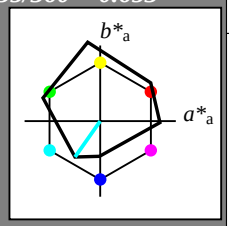
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h* = lab*h = 235/360 = 0.653*
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

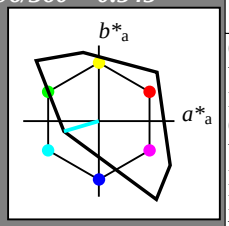
chromaticness c^*

Output: Colorimetric Television Luminous System TLS00

for hue *h* = lab*h = 196/360 = 0.545*
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 235/360 = 0.653 (left)

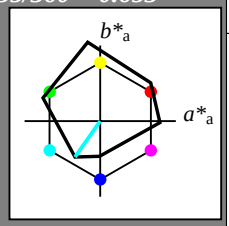
3 step scales for constant CIELAB hue 196/360 = 0.545 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 235/360 = 0.653
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

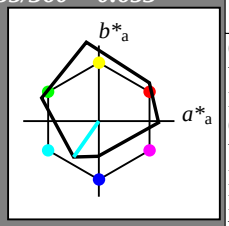
chromaticness c^*

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 235/360 = 0.653
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 235/360 = 0.653 (left)

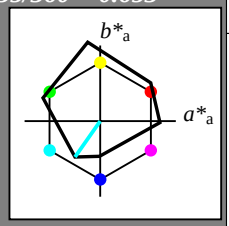
3 step scales for constant CIELAB hue 235/360 = 0.653 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 235/360 = 0.653
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

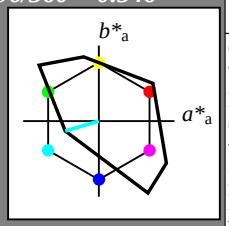
chromaticness ***c****

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 196/360 = 0.546
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness ***c****

NE100−7, 3 step scales for constant CIELAB hue 235/360 = 0.653 (left)

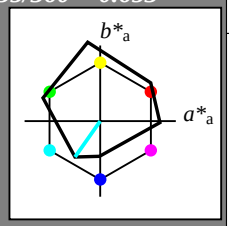
3 step scales for constant CIELAB hue 196/360 = 0.546 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 235/360 = 0.653
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

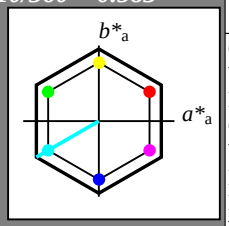
NE100−7, 3 step scales for constant CIELAB hue 235/360 = 0.653 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 210/360 = 0.583
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

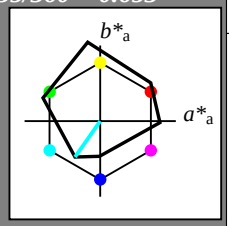
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 235/360 = 0.653
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

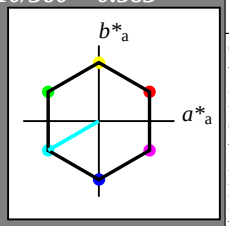
NE100−7, 3 step scales for constant CIELAB hue 235/360 = 0.653 (left)

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 210/360 = 0.583
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

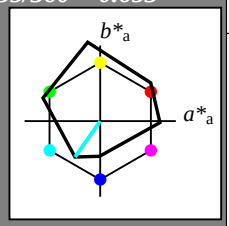
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 235/360 = 0.653**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

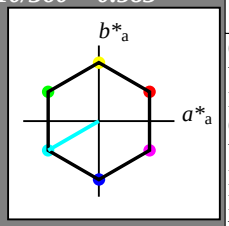
chromaticness *c**

Output: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 235/360 = 0.653 (left)

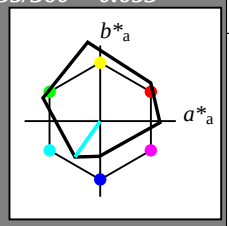
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 235/360 = 0.653**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

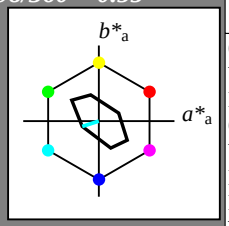
chromaticness *c**

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 235/360 = 0.653 (left)

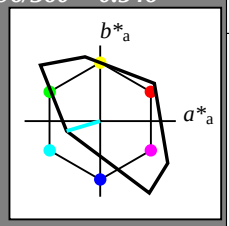
3 step scales for constant CIELAB hue 198/360 = 0.55 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 196/360 = 0.546**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

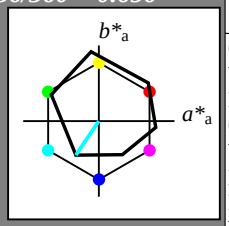
chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.546 (left)

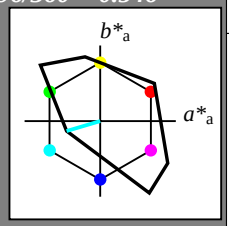
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 196/360 = 0.546**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

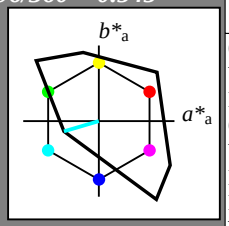
chromaticness *c**

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 196/360 = 0.545**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

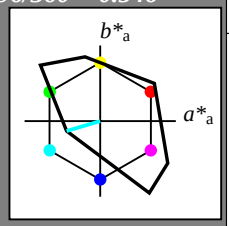
NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.546 (left)

3 step scales for constant CIELAB hue 196/360 = 0.545 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 196/360 = 0.546**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

$n^* = 0{,}00$

blackness *n**

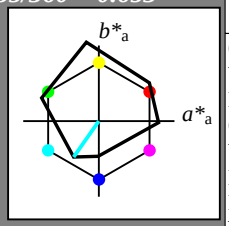
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 235/360 = 0.653**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.546 (left)

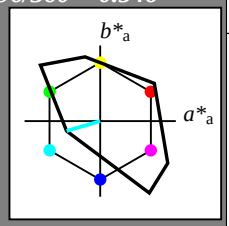
3 step scales for constant CIELAB hue 235/360 = 0.653 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 196/360 = 0.546**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

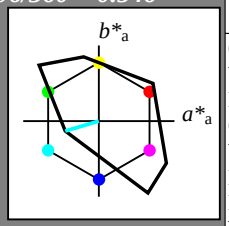
NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.546 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 196/360 = 0.546**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

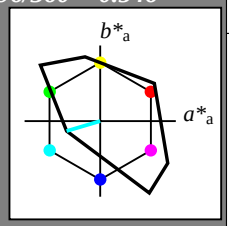
3 step scales for constant CIELAB hue 196/360 = 0.546 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 196/360 = 0.546
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

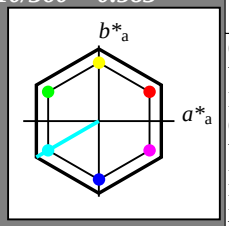
*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 210/360 = 0.583
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.546 (left)

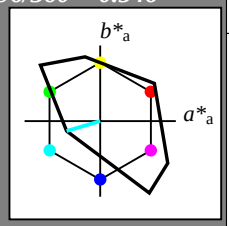
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 196/360 = 0.546
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

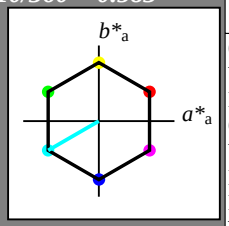
*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 210/360 = 0.583
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.546 (left)

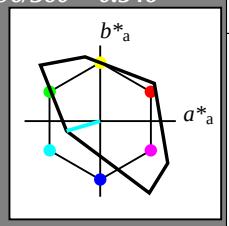
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 196/360 = 0.546
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

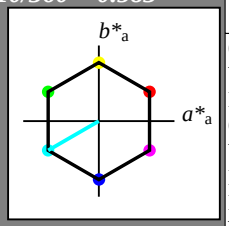
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 210/360 = 0.583
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

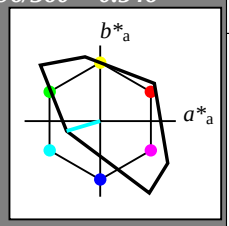
NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.546 (left)

3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 196/360 = 0.546**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

***n** = 0,00**

blackness *n**

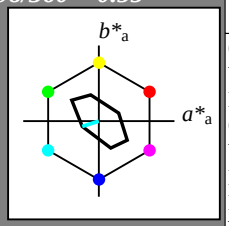
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

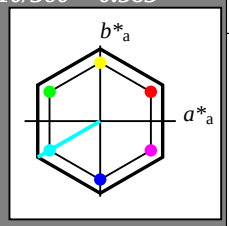
NE100−7, 3 step scales for constant CIELAB hue 196/360 = 0.546 (left)

3 step scales for constant CIELAB hue 198/360 = 0.55 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

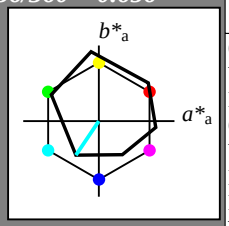
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

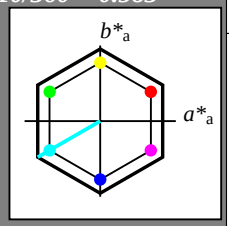
NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

***n** = 0,00**

blackness *n**

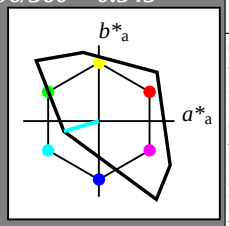
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 196/360 = 0.545**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

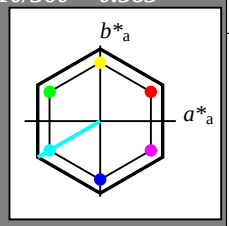
3 step scales for constant CIELAB hue 196/360 = 0.545 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

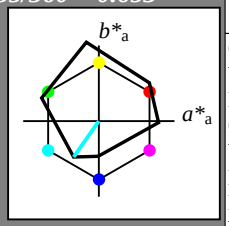
chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 235/360 = 0.653**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

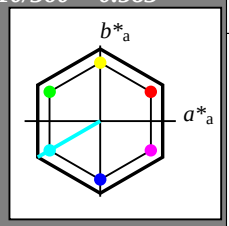
3 step scales for constant CIELAB hue 235/360 = 0.653 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

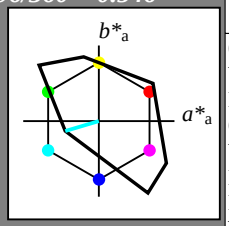
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 196/360 = 0.546**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

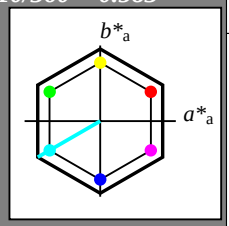
NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

3 step scales for constant CIELAB hue 196/360 = 0.546 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

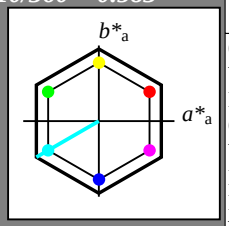
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

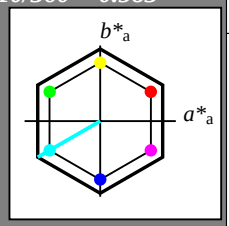
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 210/360 = 0.583
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

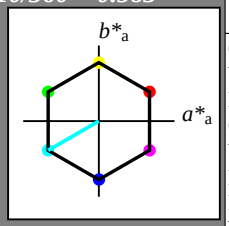
*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 210/360 = 0.583
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

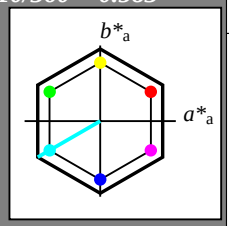
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

$n^* = 0{,}00$

blackness ***n****

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

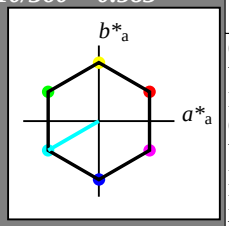
chromaticness ***c****

Output: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

$n^* = 0{,}00$

blackness ***n****

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness ***c****

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

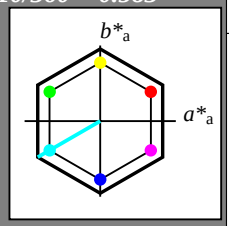
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

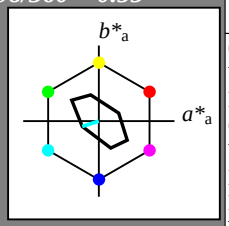
chromaticness *c**

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

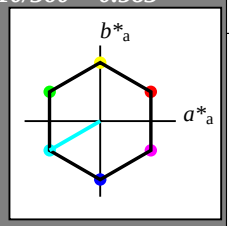
3 step scales for constant CIELAB hue 198/360 = 0.55 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

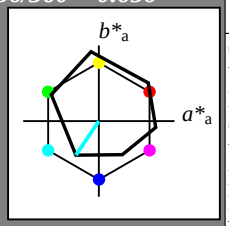
NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

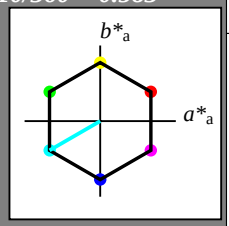
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

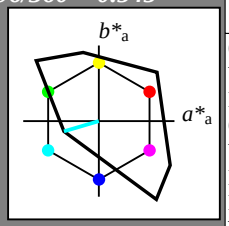
NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 196/360 = 0.545**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

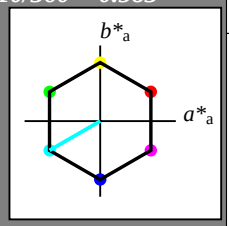
3 step scales for constant CIELAB hue 196/360 = 0.545 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

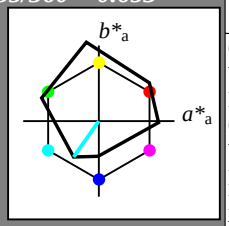
*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 235/360 = 0.653**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

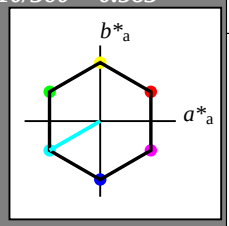
3 step scales for constant CIELAB hue 235/360 = 0.653 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

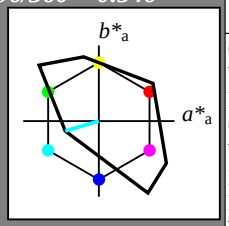
NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 196/360 = 0.546**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

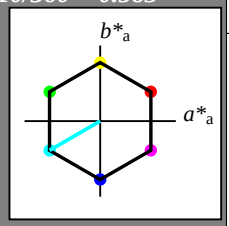
3 step scales for constant CIELAB hue 196/360 = 0.546 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

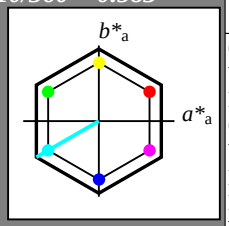
NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

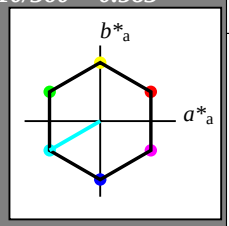
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

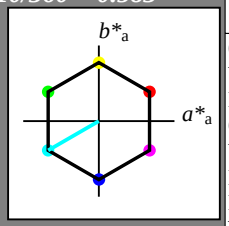
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

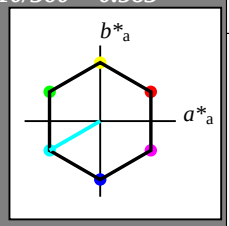
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

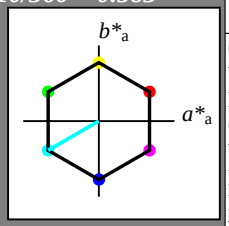
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

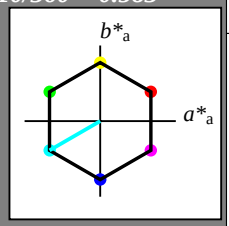
3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

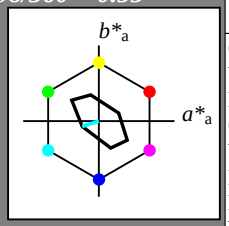
NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

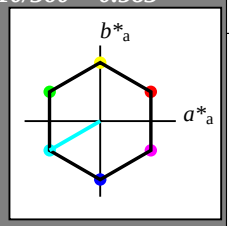
3 step scales for constant CIELAB hue 198/360 = 0.55 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

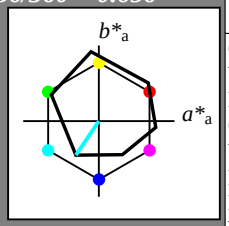
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

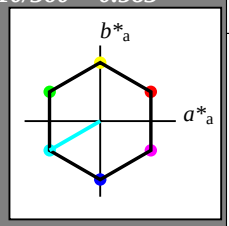
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

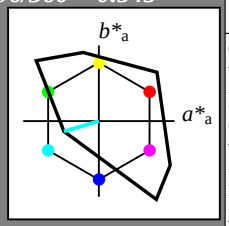
NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 196/360 = 0.545**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

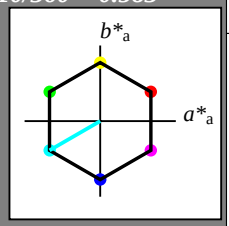
3 step scales for constant CIELAB hue 196/360 = 0.545 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

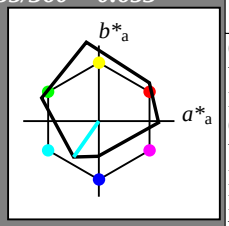
chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 235/360 = 0.653**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

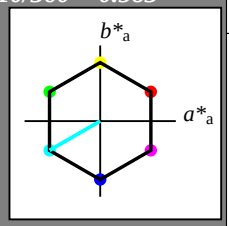
3 step scales for constant CIELAB hue 235/360 = 0.653 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

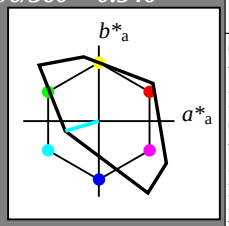
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 196/360 = 0.546**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

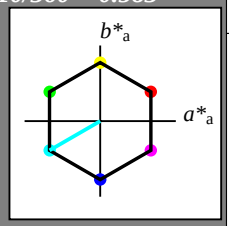
3 step scales for constant CIELAB hue 196/360 = 0.546 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

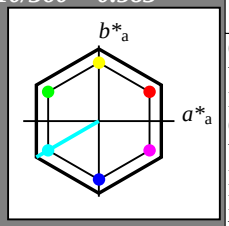
NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

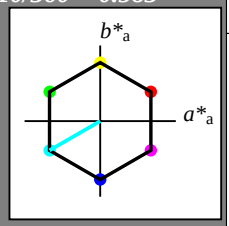
*n** = 1,0

3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

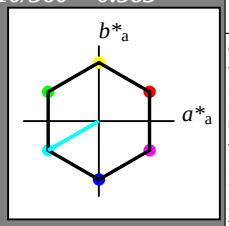
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

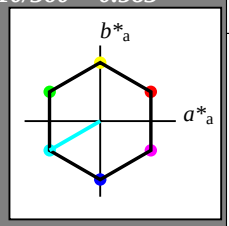
*n** = 1,0

3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

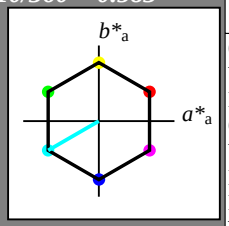
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

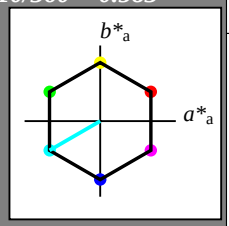
*n** = 1,0

3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

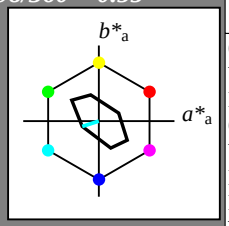
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 210/360 = 0.583 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

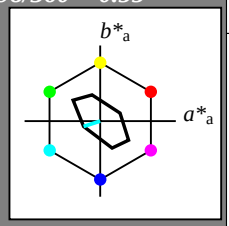
3 step scales for constant CIELAB hue 198/360 = 0.55 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

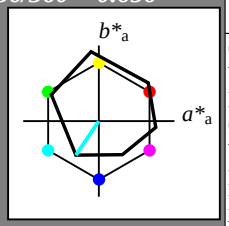
chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.8	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.414
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.6
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.14	236.02

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.414
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.61	−42.73
*LAB*LABa*	58.62	−30.33	−45.01
*LAB*TCHa*	50.0	54.29	236.02

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 198/360 = 0.55 (left)

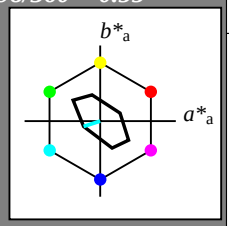
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

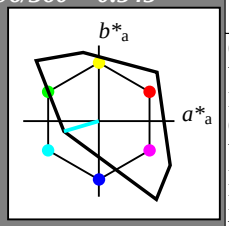
chromaticness *c**

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 196/360 = 0.545**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 48 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.14	−23.07	−6.77
*LAB*LABa*	91.14	−23.07	−6.77
*LAB*TCHa*	75.0	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.955	−0.479	−0.14
*lab*tch*	0.75	0.5	0.545
*lab*nch*	0.0	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.955	−0.44	−0.234
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.45	−23.07	−6.77
*LAB*LABa*	43.45	−23.07	−6.77
*LAB*TCHa*	25.01	24.06	196.37

relative* CIELAB *lab*

*lab*lab*	0.455	−0.479	−0.14
*lab*tch*	0.25	0.5	0.545
*lab*nch*	0.5	0.5	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.455	−0.44	−0.234
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.87	−46.15	−13.55
*LAB*LABa*	86.87	−46.15	−13.55
*LAB*TCHa*	50.0	48.11	196.37

relative* CIELAB *lab*

*lab*lab*	0.911	−0.958	−0.281
*lab*tch*	0.5	1.0	0.545
*lab*nch*	0.0	1.0	0.545

***relative* Natural Colour (NC)**

*lab*lrj*	0.911	−0.881	−0.469
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

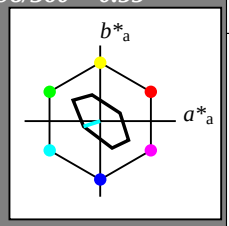
NE100−7, 3 step scales for constant CIELAB hue 198/360 = 0.55 (left)

3 step scales for constant CIELAB hue 196/360 = 0.545 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

***n** = 0,00**

blackness *n**

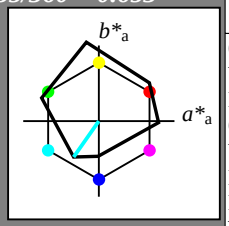
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 235/360 = 0.653**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 53 58 235
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.87	−17.13	−21.29
*LAB*LABa*	74.87	−16.66	−23.74
*LAB*TCHa*	75.0	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.731	−0.286	−0.408
*lab*tch*	0.75	0.5	0.653
*lab*nch*	0.0	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.731	−0.262	−0.424
*lab*tce*	0.75	0.5	0.662
*lab*ncE*	0.0	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.0	−17.78	−21.55
*LAB*LABa*	35.0	−16.66	−23.74
*LAB*TCHa*	25.01	29.01	234.93

relative* CIELAB *lab*

*lab*lab*	0.231	−0.286	−0.408
*lab*tch*	0.25	0.5	0.653
*lab*nch*	0.5	0.5	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.231	−0.262	−0.424
*lab*tce*	0.25	0.5	0.662
*lab*ncE*	0.5	0.5	g64b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.44	−34.14	−45.17
*LAB*LABa*	53.44	−33.32	−47.48
*LAB*TCHa*	50.0	58.02	234.93

relative* CIELAB *lab*

*lab*lab*	0.462	−0.573	−0.817
*lab*tch*	0.5	1.0	0.653
*lab*nch*	0.0	1.0	0.653

***relative* Natural Colour (NC)**

*lab*lrj*	0.462	−0.524	−0.85
*lab*tce*	0.5	1.0	0.662
*lab*ncE*	0.0	1.0	g64b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 198/360 = 0.55 (left)

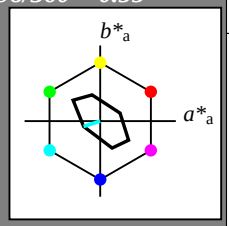
3 step scales for constant CIELAB hue 235/360 = 0.653 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

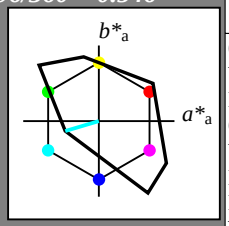
NE100−7, 3 step scales for constant CIELAB hue 198/360 = 0.55 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 196/360 = 0.546**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 87 46 196
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.27	−22.2	−6.55
*LAB*LABa*	91.27	−22.2	−6.55
*LAB*TCHa*	75.0	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.946	−0.478	−0.141
*lab*tch*	0.75	0.5	0.546
*lab*nch*	0.0	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.946	−0.44	−0.235
*lab*tce*	0.75	0.5	0.578
*lab*ncE*	0.0	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.58	−22.2	−6.55
*LAB*LABa*	52.58	−22.2	−6.55
*LAB*TCHa*	25.01	23.15	196.46

relative* CIELAB *lab*

*lab*lab*	0.447	−0.478	−0.141
*lab*tch*	0.25	0.5	0.546
*lab*nch*	0.5	0.5	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	−0.44	−0.235
*lab*tce*	0.25	0.5	0.578
*lab*ncE*	0.5	0.5	g31b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.13	−44.4	−13.11
*LAB*LABa*	87.13	−44.4	−13.11
*LAB*TCHa*	50.0	46.31	196.46

relative* CIELAB *lab*

*lab*lab*	0.893	−0.958	−0.282
*lab*tch*	0.5	1.0	0.546
*lab*nch*	0.0	1.0	0.546

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	−0.881	−0.47
*lab*tce*	0.5	1.0	0.578
*lab*ncE*	0.0	1.0	g31b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

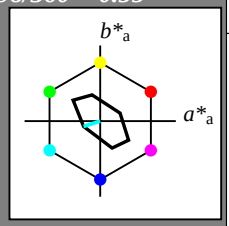
*n** = 1,0

3 step scales for constant CIELAB hue 196/360 = 0.546 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

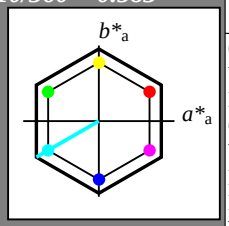
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 64 95 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	−41.29	−23.84
*LAB*LABa*	79.5	−41.29	−23.84
*LAB*TCHa*	75.0	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	−41.29	−23.84
*LAB*LABa*	31.81	−41.29	−23.84
*LAB*TCHa*	25.01	47.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	−82.59	−47.68
*LAB*LABa*	63.61	−82.59	−47.68
*LAB*TCHa*	50.0	95.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

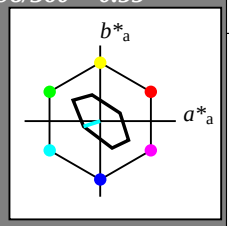
NE100−7, 3 step scales for constant CIELAB hue 198/360 = 0.55 (left)

3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

***n** = 0,00**

blackness *n**

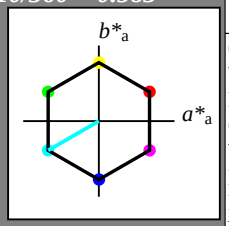
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 70 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	−33.5	−19.34
*LAB*LABa*	82.5	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.833	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	−33.5	−19.34
*LAB*LABa*	43.81	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.333	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	−67.01	−38.68
*LAB*LABa*	69.61	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.667	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

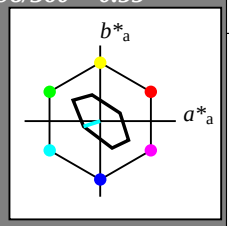
NE100−7, 3 step scales for constant CIELAB hue 198/360 = 0.55 (left)

3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

n^* = 0,00

blackness *n**

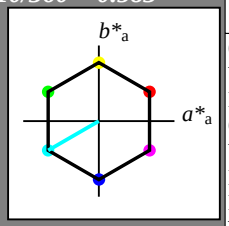
0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 210/360 = 0.583**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 57 77 210
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	−19.34
*LAB*LABa*	76.06	−33.5	−19.34
*LAB*TCHa*	75.0	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.432	−0.249
*lab*tch*	0.75	0.5	0.583
*lab*nch*	0.0	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.386	−0.315
*lab*tce*	0.75	0.5	0.609
*lab*ncE*	0.0	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	−19.34
*LAB*LABa*	37.36	−33.5	−19.34
*LAB*TCHa*	25.01	38.69	210.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.432	−0.249
*lab*tch*	0.25	0.5	0.583
*lab*nch*	0.5	0.5	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.386	−0.315
*lab*tce*	0.25	0.5	0.609
*lab*ncE*	0.5	0.5	g43b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	−38.68
*LAB*LABa*	56.71	−67.01	−38.68
*LAB*TCHa*	50.0	77.38	210.0

relative* CIELAB *lab*

*lab*lab*	0.5	−0.865	−0.499
*lab*tch*	0.5	1.0	0.583
*lab*nch*	0.0	1.0	0.583

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.773	−0.632
*lab*tce*	0.5	1.0	0.609
*lab*ncE*	0.0	1.0	g43b

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

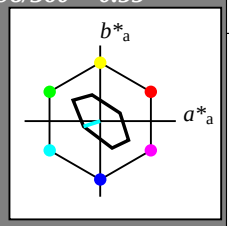
NE100−7, 3 step scales for constant CIELAB hue 198/360 = 0.55 (left)

3 step scales for constant CIELAB hue 210/360 = 0.583 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

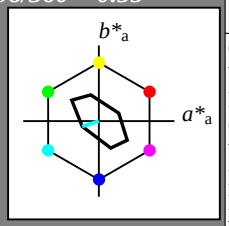
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 198/360 = 0.55**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 91 23 198
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.17	−10.97	−3.53
*LAB*LABa*	93.17	−10.97	−3.53
*LAB*TCHa*	75.0	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.913	−0.475	−0.152
*lab*tch*	0.75	0.5	0.55
*lab*nch*	0.0	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	−0.435	−0.244
*lab*tce*	0.75	0.5	0.581
*lab*ncE*	0.0	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.32	−10.97	−3.53
*LAB*LABa*	80.32	−10.97	−3.53
*LAB*TCHa*	25.01	11.53	197.87

relative* CIELAB *lab*

*lab*lab*	0.413	−0.475	−0.152
*lab*tch*	0.25	0.5	0.55
*lab*nch*	0.5	0.5	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.413	−0.435	−0.244
*lab*tce*	0.25	0.5	0.581
*lab*ncE*	0.5	0.5	g32b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.93	−21.95	−7.07
*LAB*LABa*	90.93	−21.95	−7.07
*LAB*TCHa*	50.0	23.07	197.87

relative* CIELAB *lab*

*lab*lab*	0.826	−0.951	−0.306
*lab*tch*	0.5	1.0	0.55
*lab*nch*	0.0	1.0	0.55

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	−0.871	−0.488
*lab*tce*	0.5	1.0	0.581
*lab*ncE*	0.0	1.0	g32b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 198/360 = 0.55 (left)

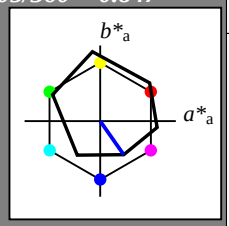
3 step scales for constant CIELAB hue 198/360 = 0.55 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

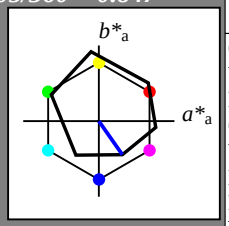
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

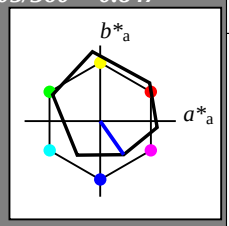
3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 305/360 = 0.847
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

relative Natural Colour (NC)

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

relative Natural Colour (NC)

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

relative Natural Colour (NC)

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

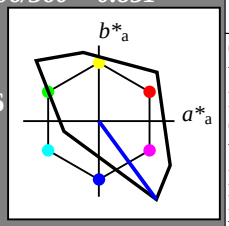
chromaticness c^*

Output: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 306/360 = 0.851
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

relative Natural Colour (NC)

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

relative Natural Colour (NC)

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

relative Natural Colour (NC)

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

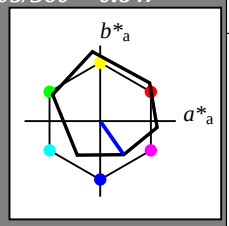
3 step scales for constant CIELAB hue 306/360 = 0.851 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 305/360 = 0.847
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

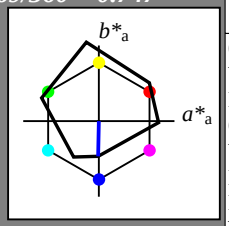
chromaticness c^*

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 269/360 = 0.747
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

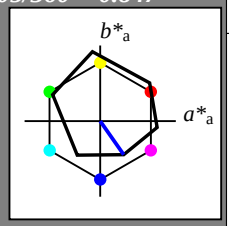
3 step scales for constant CIELAB hue 269/360 = 0.747 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 305/360 = 0.847
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

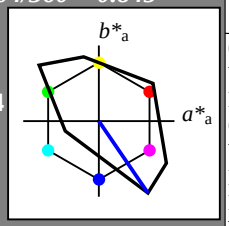
NE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 304/360 = 0.845
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

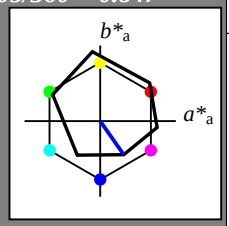
3 step scales for constant CIELAB hue 304/360 = 0.845 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 305/360 = 0.847
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

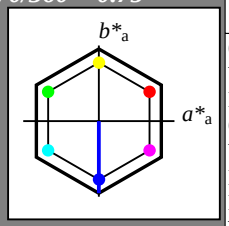
chromaticness c^*

Output: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 270/360 = 0.75
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

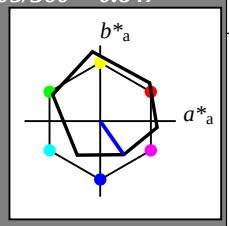
NE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

n^* = 0,00

blackness *n**

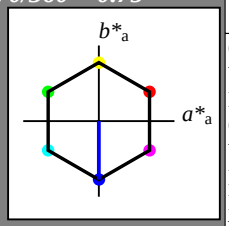
0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

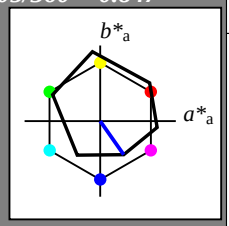
NE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

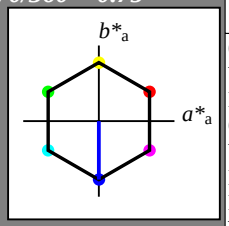
chromaticness *c**

*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 57 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	−38.68
*LAB*LABa*	76.06	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	−38.68
*LAB*LABa*	37.36	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	−77.37
*LAB*LABa*	56.71	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

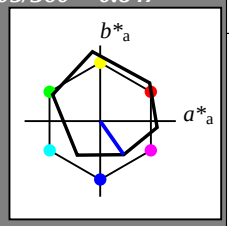
NE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

n^* = 0,00

blackness *n**

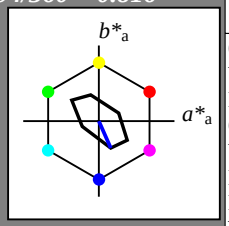
0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

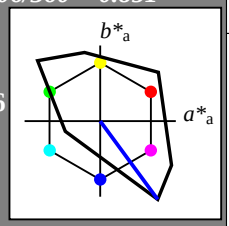
NE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 294/360 = 0.816 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

*n** = 0,00

blackness *n**

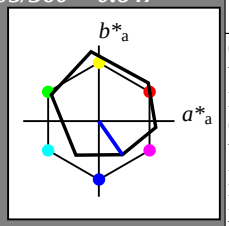
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

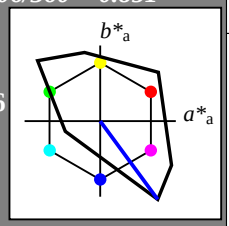
NE100−7, 3 step scales for constant CIELAB hue 306/360 = 0.851 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative CIELAB *lab**

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative CIELAB *lab**

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative CIELAB *lab**

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative CIELAB *lab**

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

relative Natural Colour (NC)

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative CIELAB *lab**

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

relative Natural Colour (NC)

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative CIELAB *lab**

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

relative Natural Colour (NC)

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

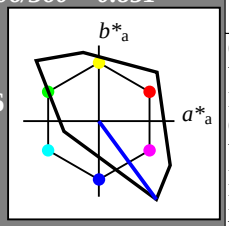
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative CIELAB *lab**

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative CIELAB *lab**

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative CIELAB *lab**

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative CIELAB *lab**

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

relative Natural Colour (NC)

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative CIELAB *lab**

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

relative Natural Colour (NC)

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative CIELAB *lab**

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

relative Natural Colour (NC)

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 306/360 = 0.851 (left)

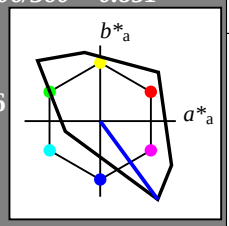
3 step scales for constant CIELAB hue 306/360 = 0.851 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 306/360 = 0.851
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

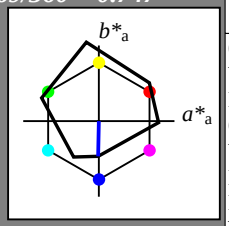
chromaticness c^*

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 269/360 = 0.747
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 306/360 = 0.851 (left)

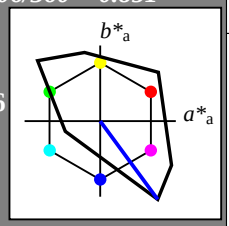
3 step scales for constant CIELAB hue 269/360 = 0.747 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

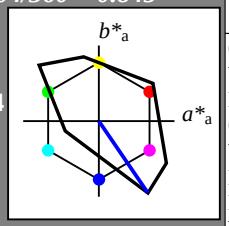
chromaticness *c**

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 304/360 = 0.845**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 306/360 = 0.851 (left)

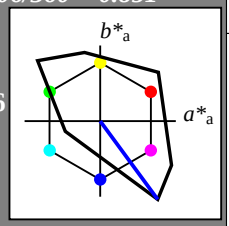
3 step scales for constant CIELAB hue 304/360 = 0.845 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 306/360 = 0.851
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

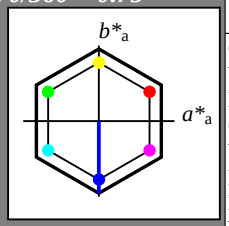
chromaticness ***c****

Output: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 270/360 = 0.75
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 152
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness ***c****

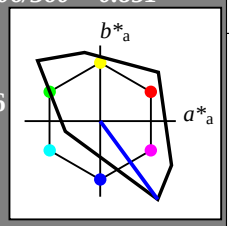
NE100−7, 3 step scales for constant CIELAB hue 306/360 = 0.851 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

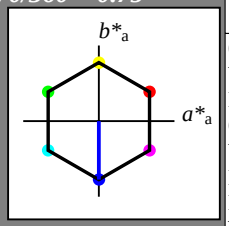
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 100
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

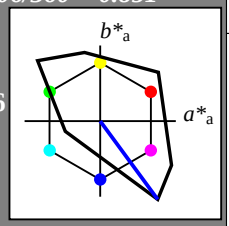
NE100−7, 3 step scales for constant CIELAB hue 306/360 = 0.851 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

***n** = 0,00**

blackness *n**

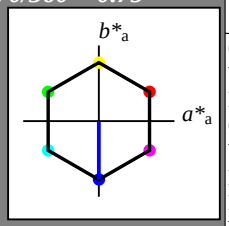
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 57 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	−38.68
*LAB*LABa*	76.06	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	−38.68
*LAB*LABa*	37.36	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	−77.37
*LAB*LABa*	56.71	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

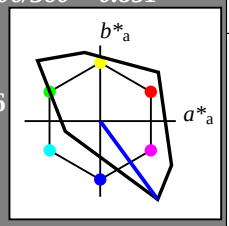
NE100−7, 3 step scales for constant CIELAB hue 306/360 = 0.851 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

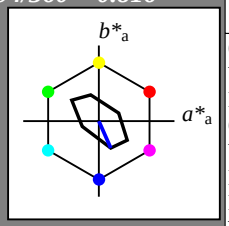
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 306/360 = 0.851 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

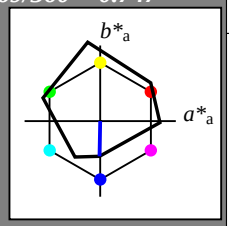
chromaticness *c**

3 step scales for constant CIELAB hue 294/360 = 0.816 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 269/360 = 0.747**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

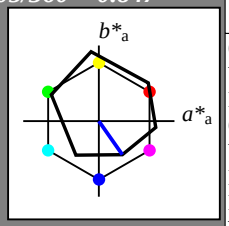
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

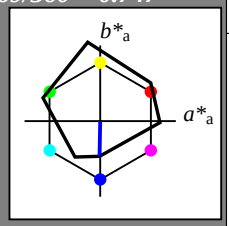
NE100−7, 3 step scales for constant CIELAB hue 269/360 = 0.747 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 269/360 = 0.747**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

***n** = 0,00**

blackness *n**

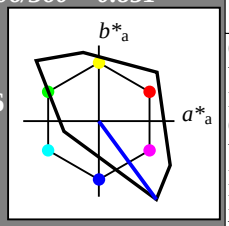
0,25 0,50 *n = 0,50 0,75 1,00**

chromaticness *c**

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

***n** = 0,00**

blackness *n**

0,25 0,50 *n = 0,50 0,75 1,00**

chromaticness *c**

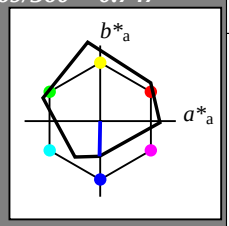
NE100−7, 3 step scales for constant CIELAB hue 269/360 = 0.747 (left)

3 step scales for constant CIELAB hue 306/360 = 0.851 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 269/360 = 0.747**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

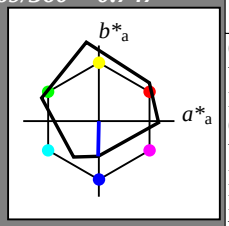
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 269/360 = 0.747 (left)

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 269/360 = 0.747**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

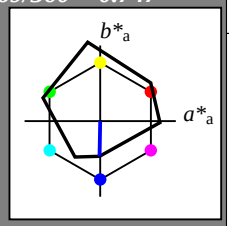
3 step scales for constant CIELAB hue 269/360 = 0.747 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h* = lab*h = 269/360 = 0.747*
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

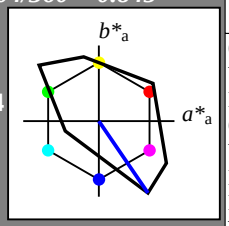
chromaticness c^*

Output: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 304/360 = 0.845*
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

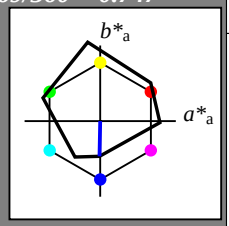
NE100−7, 3 step scales for constant CIELAB hue 269/360 = 0.747 (left)

3 step scales for constant CIELAB hue 304/360 = 0.845 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 269/360 = 0.747**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

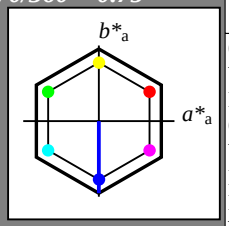
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 269/360 = 0.747 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

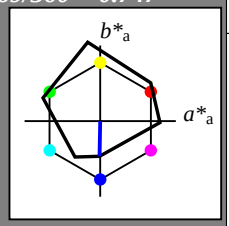
*n** = 1,0

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 269/360 = 0.747**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

***n** = 0,00**

blackness *n**

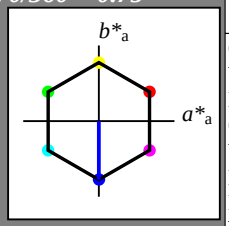
0,25 0,50 *n = 0,50 0,75 1,00**

chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***n** = 0,00**

blackness *n**

0,25 0,50 *n = 0,50 0,75 1,00**

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 269/360 = 0.747 (left)

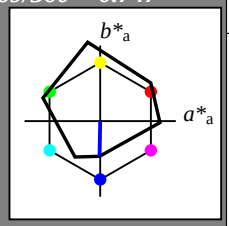
3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 269/360 = 0.747**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

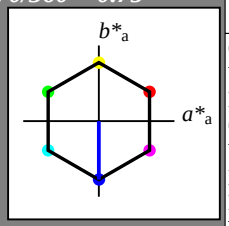
*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 57 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	−38.68
*LAB*LABa*	76.06	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	−38.68
*LAB*LABa*	37.36	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	−77.37
*LAB*LABa*	56.71	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 269/360 = 0.747 (left)

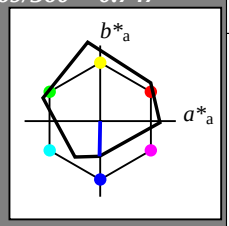
3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 269/360 = 0.747**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

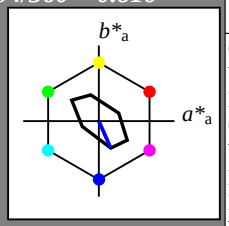
chromaticness *c**

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

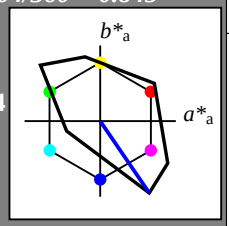
NE100−7, 3 step scales for constant CIELAB hue 269/360 = 0.747 (left)

3 step scales for constant CIELAB hue 294/360 = 0.816 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 304/360 = 0.845**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

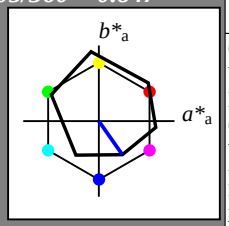
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 304/360 = 0.845 (left)

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

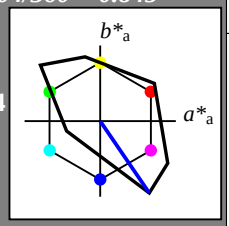
3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 304/360 = 0.845**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

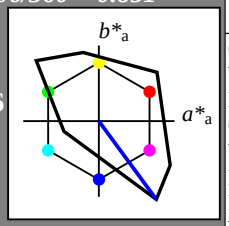
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 304/360 = 0.845 (left)

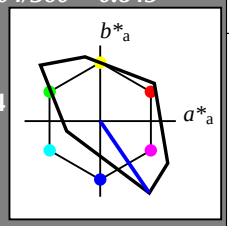
3 step scales for constant CIELAB hue 306/360 = 0.851 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 304/360 = 0.845*
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative CIELAB *lab**

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative CIELAB *lab**

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

relative Natural Colour (NC)

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative CIELAB *lab**

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative CIELAB *lab**

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

relative Natural Colour (NC)

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative CIELAB *lab**

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

relative Natural Colour (NC)

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

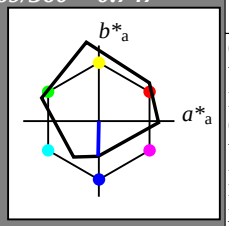
*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX

for hue *h* = lab*h = 269/360 = 0.747*
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative CIELAB *lab**

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative CIELAB *lab**

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

relative Natural Colour (NC)

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative CIELAB *lab**

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative CIELAB *lab**

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

relative Natural Colour (NC)

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative CIELAB *lab**

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

relative Natural Colour (NC)

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

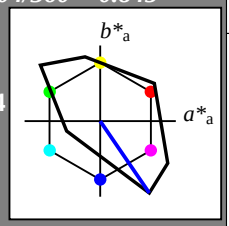
NE100−7, 3 step scales for constant CIELAB hue 304/360 = 0.845 (left)

3 step scales for constant CIELAB hue 269/360 = 0.747 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 304/360 = 0.845**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

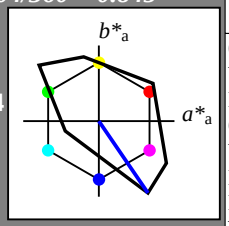
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 304/360 = 0.845**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 304/360 = 0.845 (left)

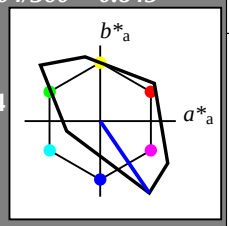
3 step scales for constant CIELAB hue 304/360 = 0.845 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 304/360 = 0.845**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

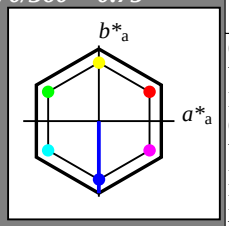
*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

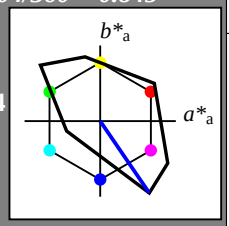
NE100−7, 3 step scales for constant CIELAB hue 304/360 = 0.845 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 304/360 = 0.845**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

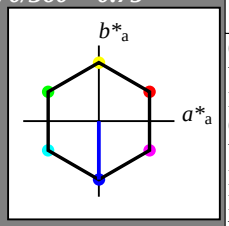
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

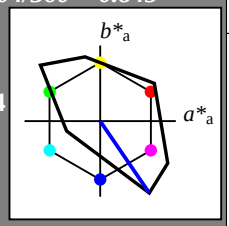
NE100−7, 3 step scales for constant CIELAB hue 304/360 = 0.845 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 304/360 = 0.845**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

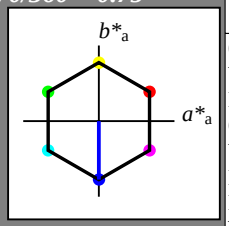
chromaticness *c**

*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 57 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	−38.68
*LAB*LABa*	76.06	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	−38.68
*LAB*LABa*	37.36	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	−77.37
*LAB*LABa*	56.71	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

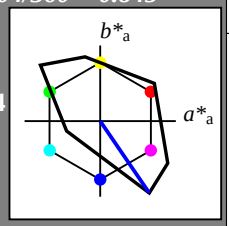
NE100−7, 3 step scales for constant CIELAB hue 304/360 = 0.845 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 304/360 = 0.845**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

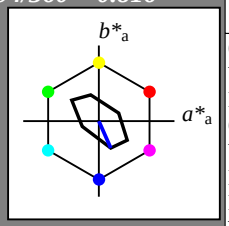
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

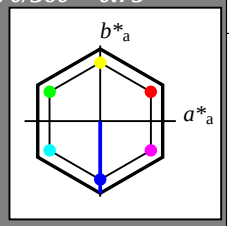
NE100−7, 3 step scales for constant CIELAB hue 304/360 = 0.845 (left)

3 step scales for constant CIELAB hue 294/360 = 0.816 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***n** = 0,00**

blackness *n**

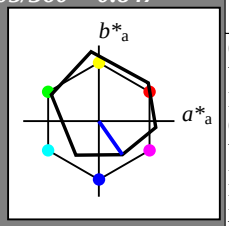
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

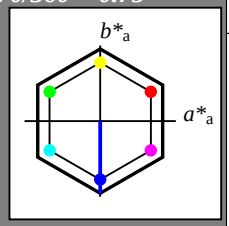
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

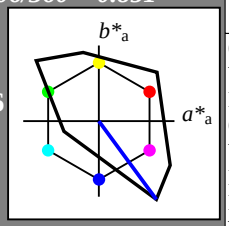
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

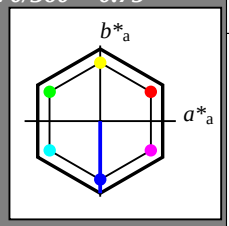
3 step scales for constant CIELAB hue 306/360 = 0.851 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

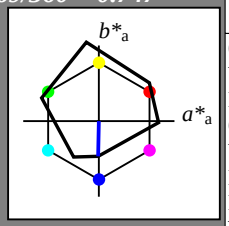
*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 269/360 = 0.747**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

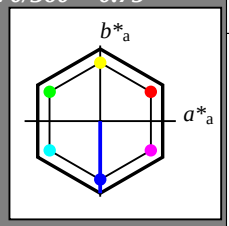
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 269/360 = 0.747 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

$n^* = 0{,}00$

blackness *n**

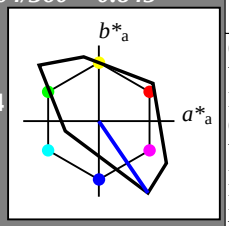
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 304/360 = 0.845**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

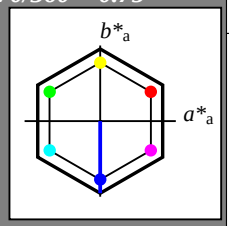
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 304/360 = 0.845 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

*n** = 0,00

blackness *n**

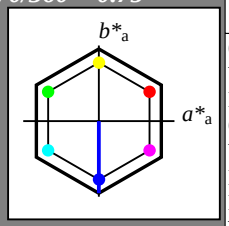
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

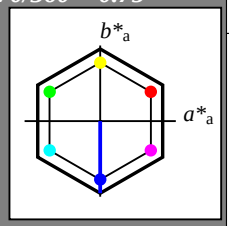
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***n** = 0,00**

blackness *n**

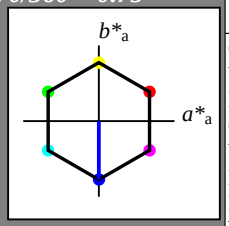
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	1.0	1.0	0.0	0.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

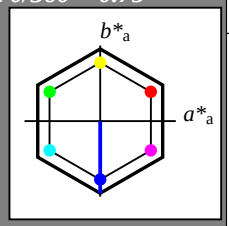
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

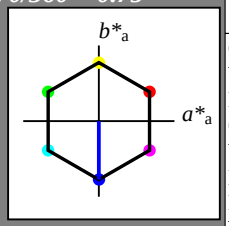
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 57 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	−38.68
*LAB*LABa*	76.06	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	−38.68
*LAB*LABa*	37.36	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	1.0	1.0	0.0	0.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	−77.37
*LAB*LABa*	56.71	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

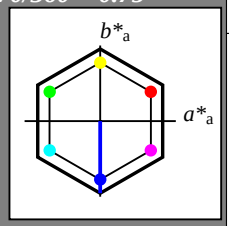
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

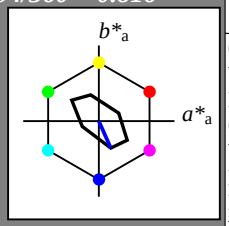
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

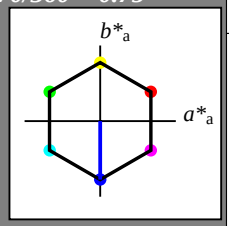
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 294/360 = 0.816 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

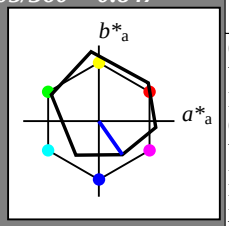
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

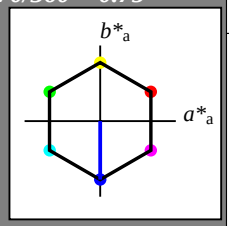
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***n** = 0,00**

blackness *n**

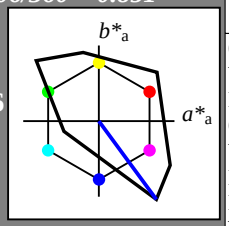
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

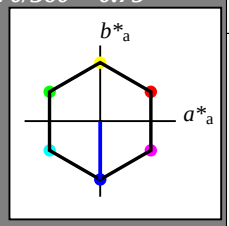
3 step scales for constant CIELAB hue 306/360 = 0.851 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 270/360 = 0.75
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

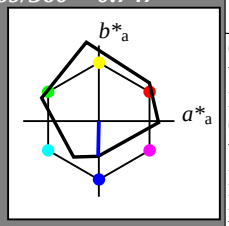
*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 269/360 = 0.747
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

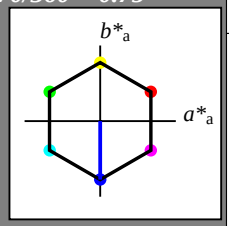
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 269/360 = 0.747 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***n** = 0,00**

blackness *n**

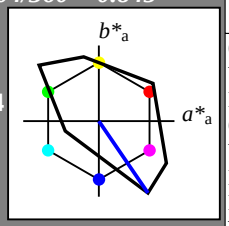
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 304/360 = 0.845**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

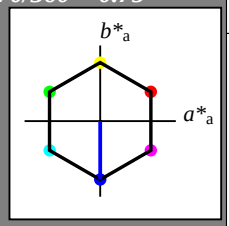
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 304/360 = 0.845 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

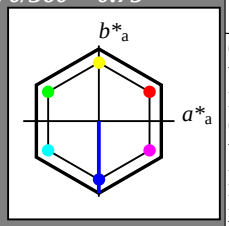
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

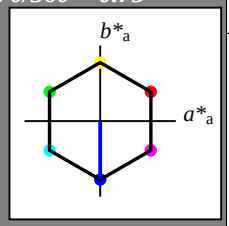
*n** = 1,0

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

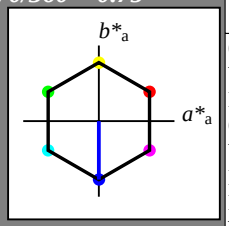
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

$n^* = 0{,}00$

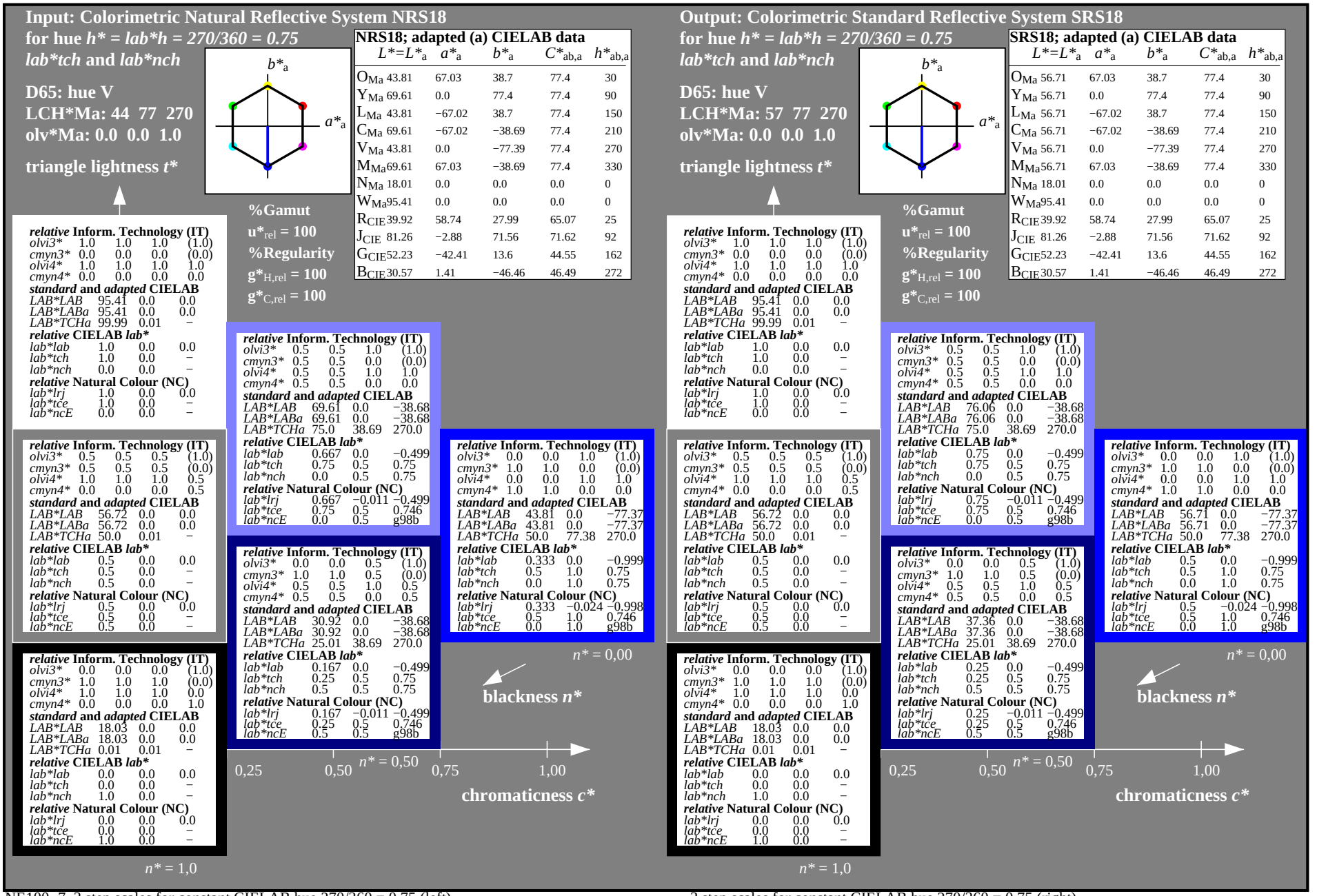
blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)



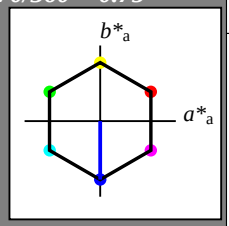
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

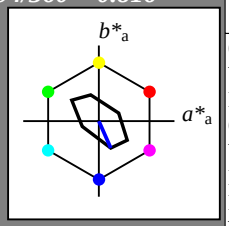
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

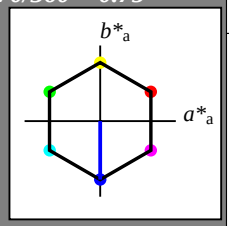
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 294/360 = 0.816 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 57 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	−38.68
*LAB*LABa*	76.06	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	−38.68
*LAB*LABa*	37.36	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	−77.37
*LAB*LABa*	56.71	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

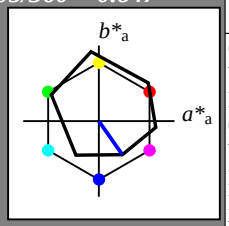
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

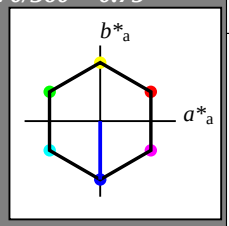
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 57 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	−38.68
*LAB*LABa*	76.06	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	−38.68
*LAB*LABa*	37.36	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	−77.37
*LAB*LABa*	56.71	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

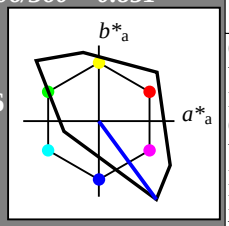
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

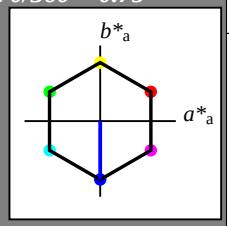
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 306/360 = 0.851 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 57 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	−38.68
*LAB*LABa*	76.06	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	−38.68
*LAB*LABa*	37.36	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	−77.37
*LAB*LABa*	56.71	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

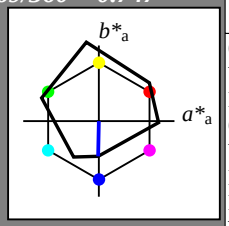
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 269/360 = 0.747**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

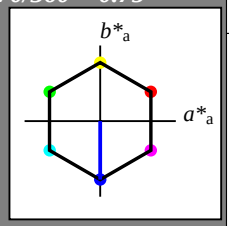
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 269/360 = 0.747 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 57 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	−38.68
*LAB*LABa*	76.06	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	−38.68
*LAB*LABa*	37.36	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	−77.37
*LAB*LABa*	56.71	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***n** = 0,00**

blackness *n**

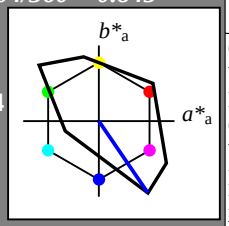
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 304/360 = 0.845**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

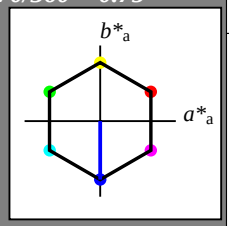
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 304/360 = 0.845 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 57 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	−38.68
*LAB*LABa*	76.06	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	−38.68
*LAB*LABa*	37.36	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	−77.37
*LAB*LABa*	56.71	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

$n^* = 0{,}00$

blackness *n**

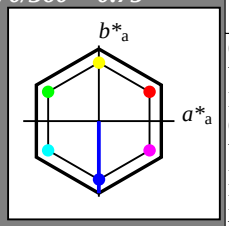
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

$n^* = 0{,}00$

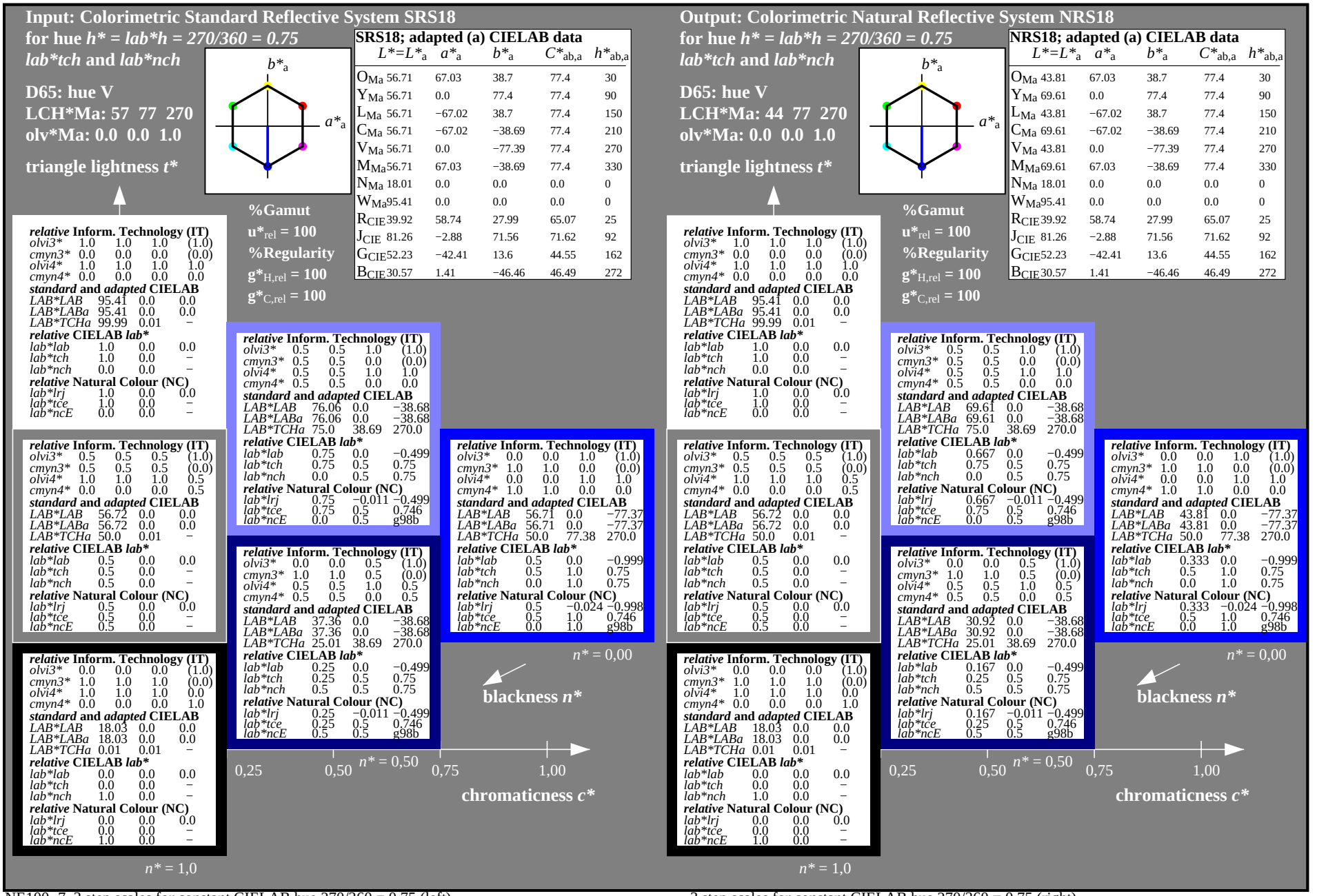
blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

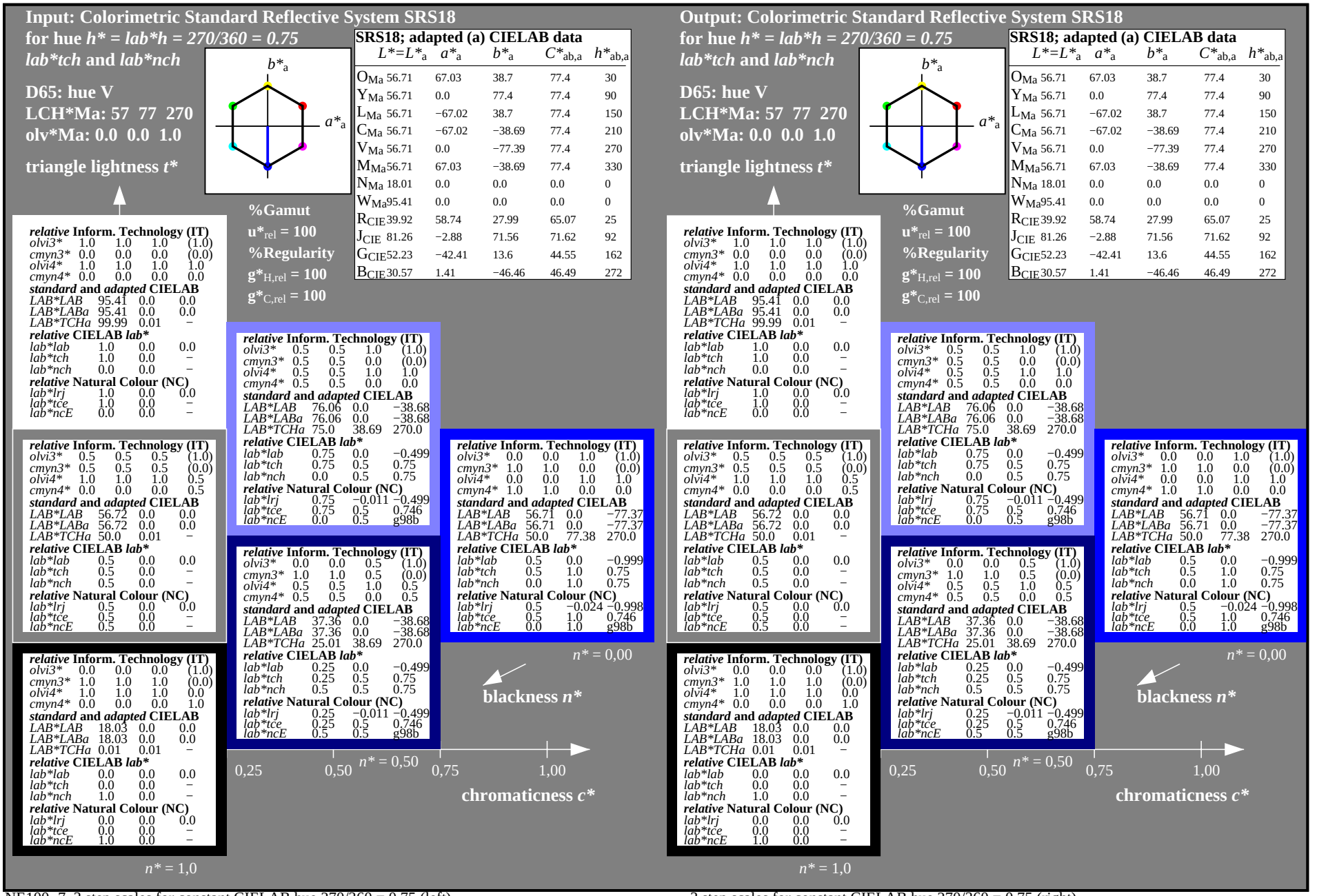
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)



NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)



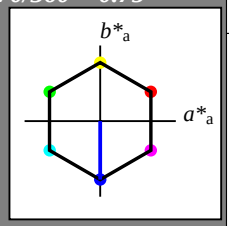
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 57 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	−38.68
*LAB*LABa*	76.06	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	−38.68
*LAB*LABa*	37.36	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	−77.37
*LAB*LABa*	56.71	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***n** = 0,00**

blackness *n**

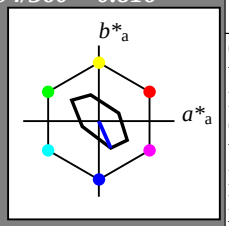
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

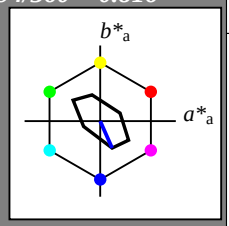
NE100−7, 3 step scales for constant CIELAB hue 270/360 = 0.75 (left)

3 step scales for constant CIELAB hue 294/360 = 0.816 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

***n** = 0,00**

blackness *n**

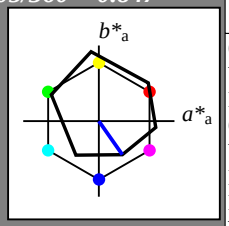
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.23	−19.79
*LAB*LABa*	60.56	15.55	−22.19
*LAB*TCHa*	75.0	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.97	−22.4
*LAB*LABa*	21.87	15.55	−22.19
*LAB*TCHa*	25.01	27.1	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.73	31.44	−44.34
*LAB*LABa*	25.73	31.09	−44.39
*LAB*TCHa*	50.0	54.21	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

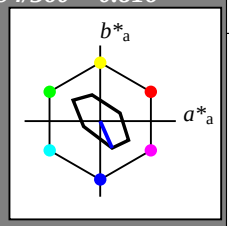
NE100−7, 3 step scales for constant CIELAB hue 294/360 = 0.816 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

*n** = 0,00

blackness *n**

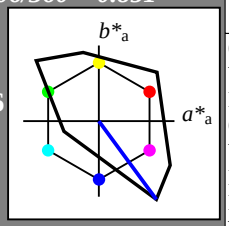
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 306/360 = 0.851**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.9	38.02	−51.78
*LAB*LABa*	62.9	38.02	−51.78
*LAB*TCHa*	75.0	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.659	0.296	−0.402
*lab*tch*	0.75	0.5	0.851
*lab*nch*	0.0	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.659	0.23	−0.443
*lab*tce*	0.75	0.5	0.826
*lab*ncE*	0.0	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.21	38.02	−51.78
*LAB*LABa*	15.21	38.02	−51.78
*LAB*TCHa*	25.01	64.25	306.29

relative* CIELAB *lab*

*lab*lab*	0.159	0.296	−0.402
*lab*tch*	0.25	0.5	0.851
*lab*nch*	0.5	0.5	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.159	0.23	−0.443
*lab*tce*	0.25	0.5	0.826
*lab*ncE*	0.5	0.5	b30r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.39	76.04	−103.57
*LAB*LABa*	30.39	76.04	−103.57
*LAB*TCHa*	50.0	128.5	306.29

relative* CIELAB *lab*

*lab*lab*	0.318	0.592	−0.805
*lab*tch*	0.5	1.0	0.851
*lab*nch*	0.0	1.0	0.851

***relative* Natural Colour (NC)**

*lab*lrj*	0.318	0.459	−0.887
*lab*tce*	0.5	1.0	0.826
*lab*ncE*	0.0	1.0	b30r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

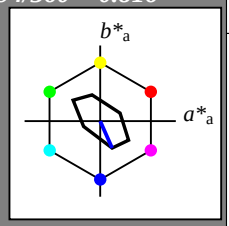
NE100−7, 3 step scales for constant CIELAB hue 294/360 = 0.816 (left)

3 step scales for constant CIELAB hue 306/360 = 0.851 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

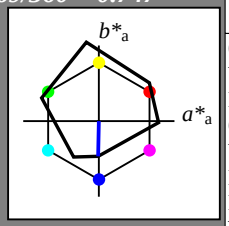
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 294/360 = 0.816 (left)

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 269/360 = 0.747**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 34 47 269
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.23	−1.08	−20.89
*LAB*LABa*	65.23	−0.45	−23.27
*LAB*TCHa*	75.0	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.61	−0.009	−0.499
*lab*tch*	0.75	0.5	0.747
*lab*nch*	0.0	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.61	−0.029	−0.498
*lab*tce*	0.75	0.5	0.74
*lab*ncE*	0.0	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.37	−1.73	−21.15
*LAB*LABa*	25.37	−0.45	−23.27
*LAB*TCHa*	25.01	23.29	268.86

relative* CIELAB *lab*

*lab*lab*	0.11	−0.009	−0.499
*lab*tch*	0.25	0.5	0.747
*lab*nch*	0.5	0.5	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.11	−0.029	−0.498
*lab*tce*	0.25	0.5	0.74
*lab*ncE*	0.5	0.5	g96b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.16	−2.05	−44.37
*LAB*LABa*	34.16	−0.92	−46.56
*LAB*TCHa*	50.0	46.57	268.86

relative* CIELAB *lab*

*lab*lab*	0.221	−0.019	−0.999
*lab*tch*	0.5	1.0	0.747
*lab*nch*	0.0	1.0	0.747

***relative* Natural Colour (NC)**

*lab*lrj*	0.221	−0.06	−0.997
*lab*tce*	0.5	1.0	0.74
*lab*ncE*	0.0	1.0	g96b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

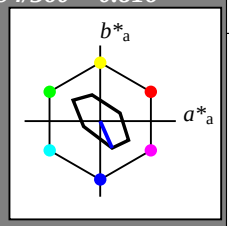
3 step scales for constant CIELAB hue 269/360 = 0.747 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

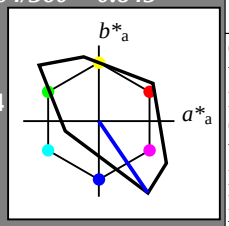
NE100−7, 3 step scales for constant CIELAB hue 294/360 = 0.816 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 304/360 = 0.845**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 35 115 304
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.44	32.45	−47.52
*LAB*LABa*	65.44	32.45	−47.52
*LAB*TCHa*	75.0	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.613	0.282	−0.412
*lab*tch*	0.75	0.5	0.845
*lab*nch*	0.0	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.217	−0.449
*lab*tce*	0.75	0.5	0.822
*lab*ncE*	0.0	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.75	32.45	−47.52
*LAB*LABa*	26.75	32.45	−47.52
*LAB*TCHa*	25.01	57.55	304.33

relative* CIELAB *lab*

*lab*lab*	0.113	0.282	−0.412
*lab*tch*	0.25	0.5	0.845
*lab*nch*	0.5	0.5	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.217	−0.449
*lab*tce*	0.25	0.5	0.822
*lab*ncE*	0.5	0.5	b28r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.47	64.91	−95.04
*LAB*LABa*	35.47	64.91	−95.04
*LAB*TCHa*	50.0	115.1	304.33

relative* CIELAB *lab*

*lab*lab*	0.226	0.564	−0.825
*lab*tch*	0.5	1.0	0.845
*lab*nch*	0.0	1.0	0.845

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.435	−0.899
*lab*tce*	0.5	1.0	0.822
*lab*ncE*	0.0	1.0	b28r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

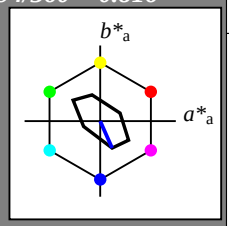
chromaticness *c**

3 step scales for constant CIELAB hue 304/360 = 0.845 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

$n^* = 0{,}00$

blackness *n**

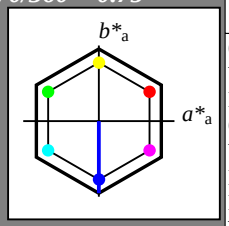
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 32 95 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	0.0	−47.68
*LAB*LABa*	63.61	0.0	−47.68
*LAB*TCHa*	75.0	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	15.92	0.0	−47.68
*LAB*LABa*	15.92	0.0	−47.68
*LAB*TCHa*	25.01	47.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	0.0	−95.37
*LAB*LABa*	31.81	0.0	−95.37
*LAB*TCHa*	50.0	95.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

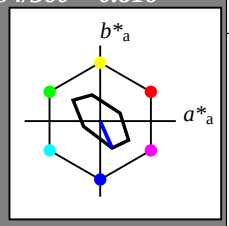
NE100−7, 3 step scales for constant CIELAB hue 294/360 = 0.816 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 16
%Regularity
g*$_{H,rel}$ = 34
g*$_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

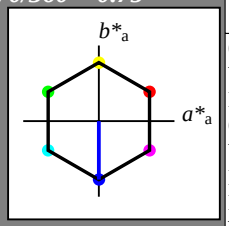
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 294/360 = 0.816 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 44 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 100
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	0.0	−38.68
*LAB*LABa*	69.61	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.92	0.0	−38.68
*LAB*LABa*	30.92	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.167	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.167	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	0.0	−77.37
*LAB*LABa*	43.81	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

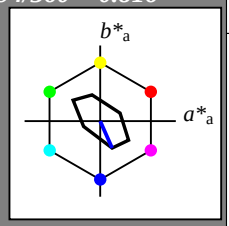
3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

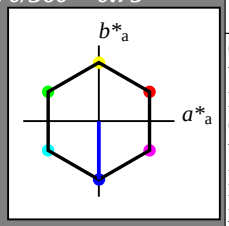
chromaticness *c**

Output: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 270/360 = 0.75**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 57 77 270
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	0.0	−38.68
*LAB*LABa*	76.06	0.0	−38.68
*LAB*TCHa*	75.0	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.0	−0.499
*lab*tch*	0.75	0.5	0.75
*lab*nch*	0.0	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.011	−0.499
*lab*tce*	0.75	0.5	0.746
*lab*ncE*	0.0	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	0.0	−38.68
*LAB*LABa*	37.36	0.0	−38.68
*LAB*TCHa*	25.01	38.69	270.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.0	−0.499
*lab*tch*	0.25	0.5	0.75
*lab*nch*	0.5	0.5	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.011	−0.499
*lab*tce*	0.25	0.5	0.746
*lab*ncE*	0.5	0.5	g98b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.0	−77.37
*LAB*LABa*	56.71	0.0	−77.37
*LAB*TCHa*	50.0	77.38	270.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	−0.999
*lab*tch*	0.5	1.0	0.75
*lab*nch*	0.0	1.0	0.75

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.024	−0.998
*lab*tce*	0.5	1.0	0.746
*lab*ncE*	0.0	1.0	g98b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

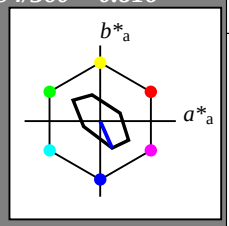
NE100−7, 3 step scales for constant CIELAB hue 294/360 = 0.816 (left)

3 step scales for constant CIELAB hue 270/360 = 0.75 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

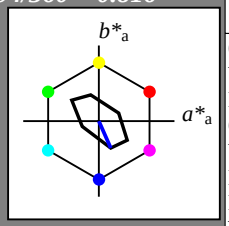
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 294/360 = 0.816**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 72 39 294
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	83.75	7.88	−17.81
*LAB*LABa*	83.75	7.88	−17.81
*LAB*TCHa*	75.0	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.547	0.202	−0.456
*lab*tch*	0.75	0.5	0.816
*lab*nch*	0.0	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.547	0.15	−0.476
*lab*tce*	0.75	0.5	0.799
*lab*ncE*	0.0	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.9	7.88	−17.81
*LAB*LABa*	70.9	7.88	−17.81
*LAB*TCHa*	25.01	19.48	293.86

relative* CIELAB *lab*

*lab*lab*	0.047	0.202	−0.456
*lab*tch*	0.25	0.5	0.816
*lab*nch*	0.5	0.5	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.047	0.15	−0.476
*lab*tce*	0.25	0.5	0.799
*lab*ncE*	0.5	0.5	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.1	15.76	−35.62
*LAB*LABa*	72.1	15.76	−35.62
*LAB*TCHa*	50.0	38.96	293.86

relative* CIELAB *lab*

*lab*lab*	0.093	0.404	−0.913
*lab*tch*	0.5	1.0	0.816
*lab*nch*	0.0	1.0	0.816

***relative* Natural Colour (NC)**

*lab*lrj*	0.093	0.301	−0.953
*lab*tce*	0.5	1.0	0.799
*lab*ncE*	0.0	1.0	b19r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 294/360 = 0.816 (left)

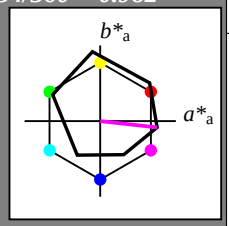
3 step scales for constant CIELAB hue 294/360 = 0.816 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

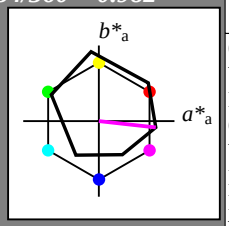
chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

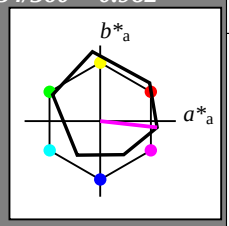
3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 354/360 = 0.982
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u*$_{rel}$ = 93
%Regularity
g*$_{H,rel}$ = 57
g*$_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

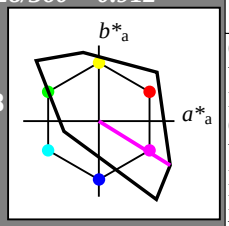
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 328/360 = 0.912
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

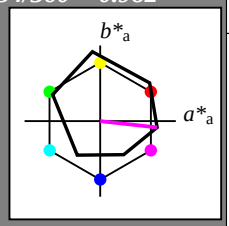
NE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 328/360 = 0.912 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

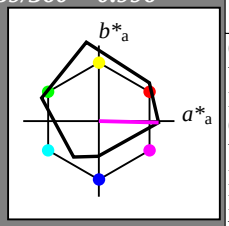
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 359/360 = 0.996**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

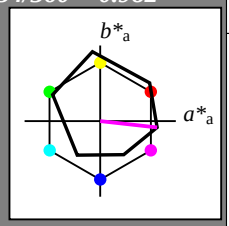
3 step scales for constant CIELAB hue 359/360 = 0.996 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

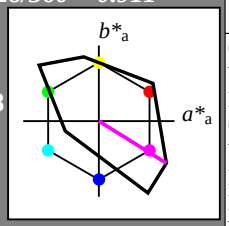
chromaticness *c**

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 328/360 = 0.911**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

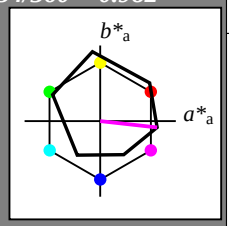
3 step scales for constant CIELAB hue 328/360 = 0.911 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	b72r
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

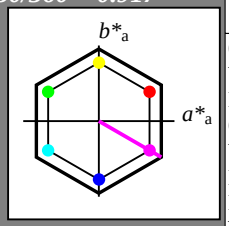
*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

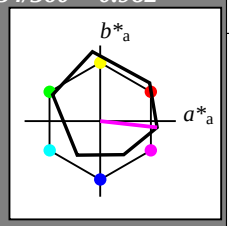
3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 354/360 = 0.982
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

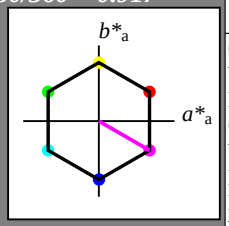
chromaticness c^*

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

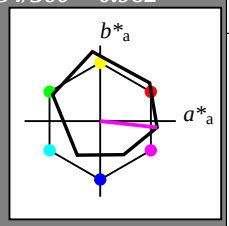
3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 354/360 = 0.982
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

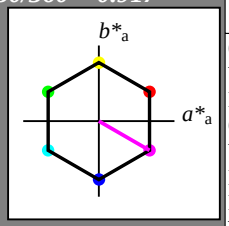
chromaticness c^*

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

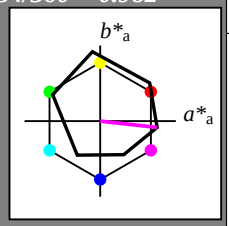
3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 354/360 = 0.982
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u*$_{rel}$ = 93
%Regularity
g*$_{H,rel}$ = 57
g*$_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

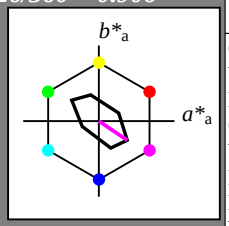
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 326/360 = 0.906
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 16
%Regularity
g*$_{H,rel}$ = 34
g*$_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

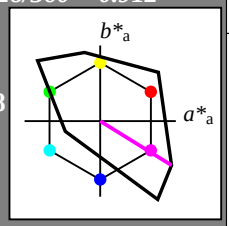
3 step scales for constant CIELAB hue 326/360 = 0.906 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 328/360 = 0.912
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

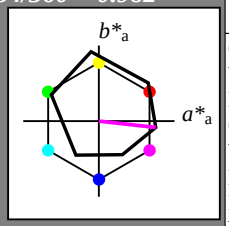
chromaticness ***c****

Output: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 354/360 = 0.982
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u*$_{rel}$ = 93
%Regularity
g*$_{H,rel}$ = 57
g*$_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness ***c****

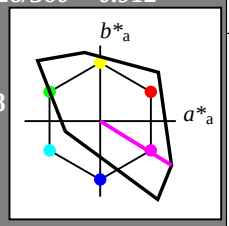
NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.912 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 328/360 = 0.912**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

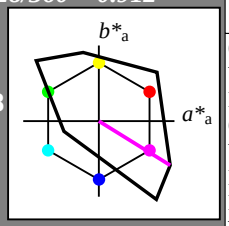
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.912 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 328/360 = 0.912**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

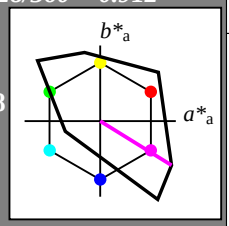
chromaticness *c**

3 step scales for constant CIELAB hue 328/360 = 0.912 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 328/360 = 0.912**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

***n** = 0,00**

blackness *n**

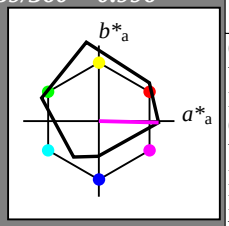
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 359/360 = 0.996**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.912 (left)

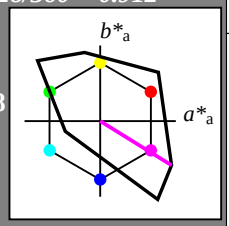
3 step scales for constant CIELAB hue 359/360 = 0.996 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 328/360 = 0.912
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

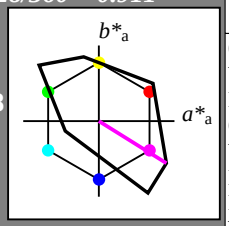
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 328/360 = 0.911
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 118
%Regularity
g*$_{H,rel}$ = 22
g*$_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.912 (left)

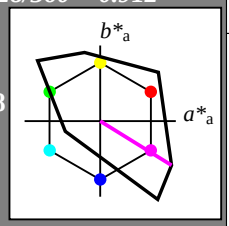
3 step scales for constant CIELAB hue 328/360 = 0.911 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 328/360 = 0.912
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

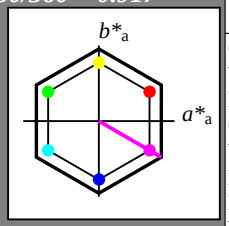
*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 152
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.912 (left)

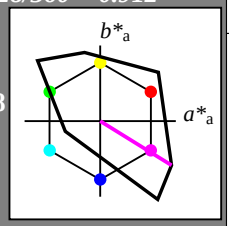
3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 328/360 = 0.912
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

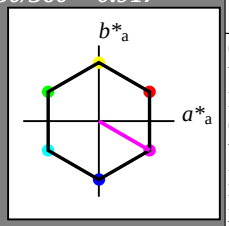
chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.912 (left)

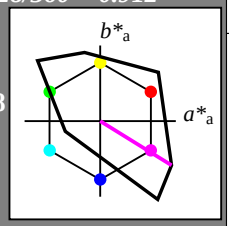
3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 328/360 = 0.912
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

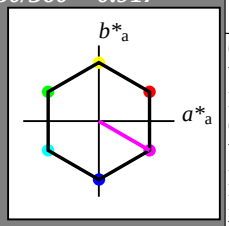
chromaticness *c**

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.912 (left)

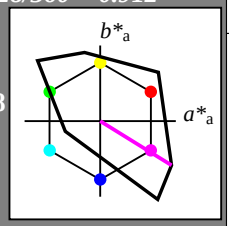
3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 328/360 = 0.912$
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

relative Natural Colour (NC)

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

relative Natural Colour (NC)

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

relative Natural Colour (NC)

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

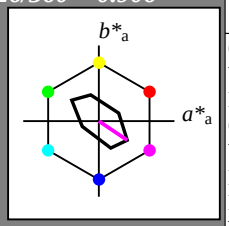
chromaticness c^*

Output: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 326/360 = 0.906$
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

relative Natural Colour (NC)

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

relative Natural Colour (NC)

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

relative Natural Colour (NC)

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

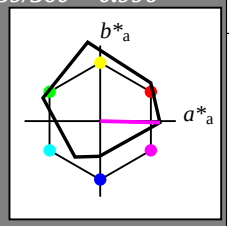
NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.912 (left)

3 step scales for constant CIELAB hue 326/360 = 0.906 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 359/360 = 0.996**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

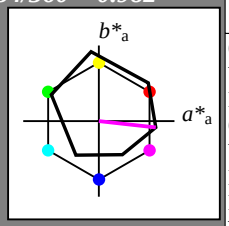
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 359/360 = 0.996 (left)

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

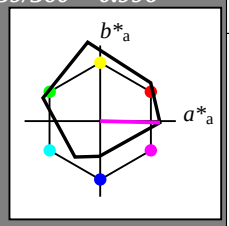
chromaticness *c**

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 359/360 = 0.996**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

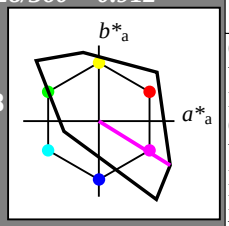
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 328/360 = 0.912**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 359/360 = 0.996 (left)

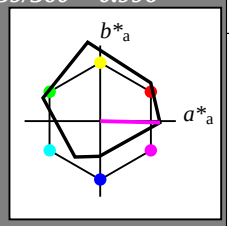
3 step scales for constant CIELAB hue 328/360 = 0.912 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 359/360 = 0.996
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

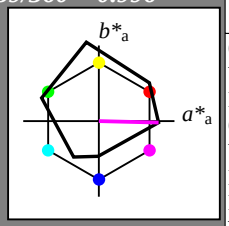
NE100−7, 3 step scales for constant CIELAB hue 359/360 = 0.996 (left)

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 359/360 = 0.996
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

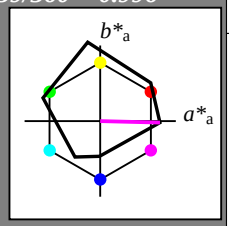
3 step scales for constant CIELAB hue 359/360 = 0.996 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 359/360 = 0.996
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

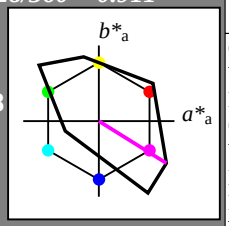
chromaticness c^*

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 328/360 = 0.911
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

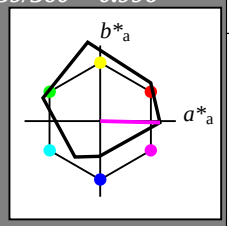
NE100−7, 3 step scales for constant CIELAB hue 359/360 = 0.996 (left)

3 step scales for constant CIELAB hue 328/360 = 0.911 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 359/360 = 0.996**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

***n** = 0,00**

blackness *n**

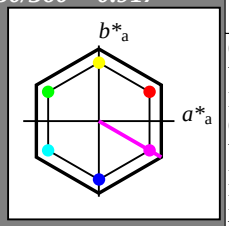
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 359/360 = 0.996 (left)

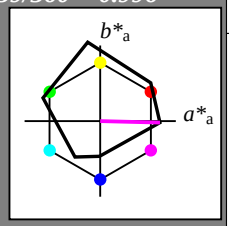
3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 359/360 = 0.996
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

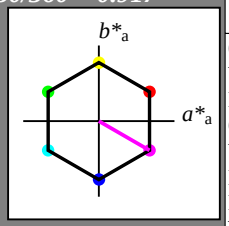
*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 359/360 = 0.996 (left)

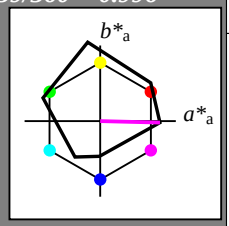
3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 359/360 = 0.996
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

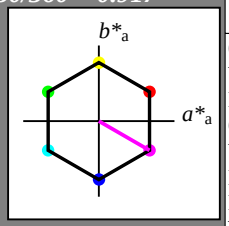
*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

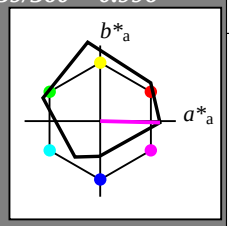
NE100−7, 3 step scales for constant CIELAB hue 359/360 = 0.996 (left)

3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 359/360 = 0.996**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

***n** = 0,00**

blackness *n**

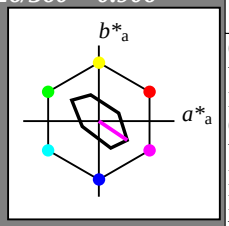
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 326/360 = 0.906**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

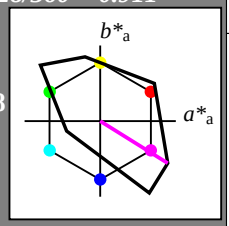
NE100−7, 3 step scales for constant CIELAB hue 359/360 = 0.996 (left)

3 step scales for constant CIELAB hue 326/360 = 0.906 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 328/360 = 0.911**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

***n** = 0,00**

blackness *n**

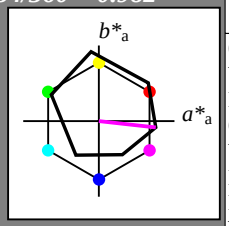
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.911 (left)

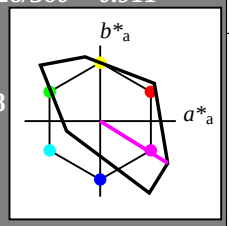
3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 328/360 = 0.911
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

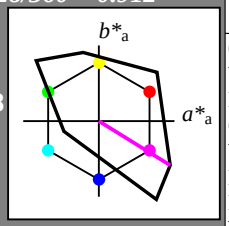
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 328/360 = 0.912
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

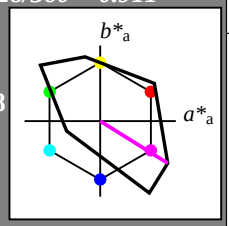
NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.911 (left)

3 step scales for constant CIELAB hue 328/360 = 0.912 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 328/360 = 0.911**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

***n** = 0,00**

blackness *n**

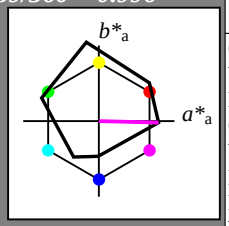
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 359/360 = 0.996**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

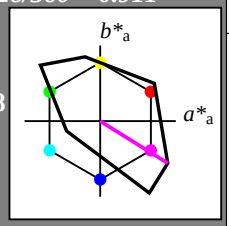
NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.911 (left)

3 step scales for constant CIELAB hue 359/360 = 0.996 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 328/360 = 0.911**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

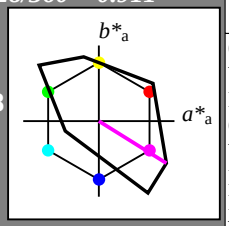
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 328/360 = 0.911**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

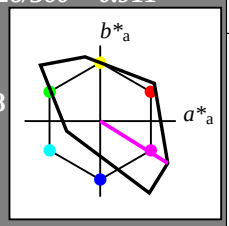
NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.911 (left)

3 step scales for constant CIELAB hue 328/360 = 0.911 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 328/360 = 0.911**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

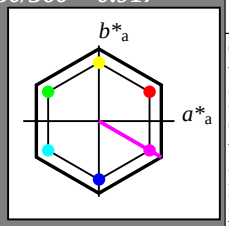
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

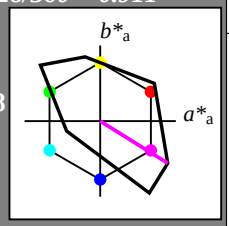
NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.911 (left)

3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 328/360 = 0.911**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

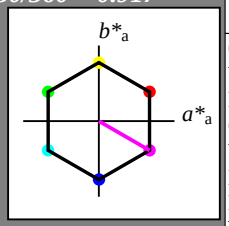
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

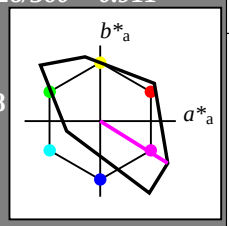
NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.911 (left)

3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 328/360 = 0.911**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

***n** = 0,00**

blackness *n**

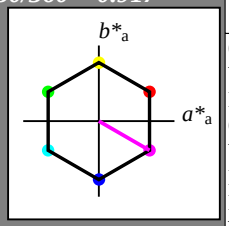
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.911 (left)

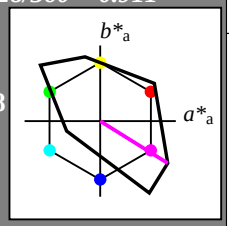
3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 328/360 = 0.911**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

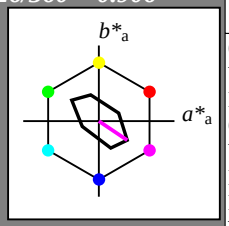
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 326/360 = 0.906**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

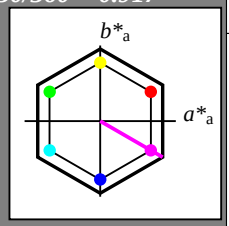
NE100−7, 3 step scales for constant CIELAB hue 328/360 = 0.911 (left)

3 step scales for constant CIELAB hue 326/360 = 0.906 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

***n** = 0,00**

blackness *n**

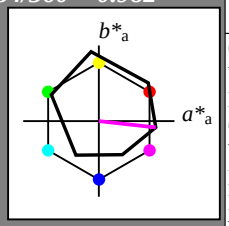
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

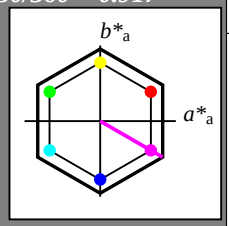
3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

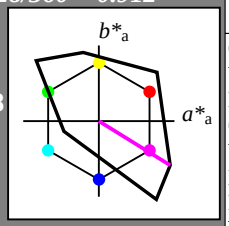
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 328/360 = 0.912**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

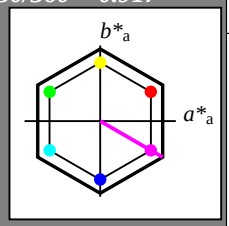
3 step scales for constant CIELAB hue 328/360 = 0.912 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

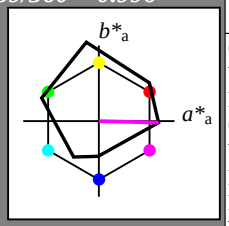
chromaticness c^*

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 359/360 = 0.996
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

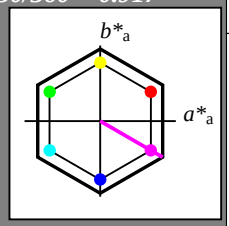
3 step scales for constant CIELAB hue 359/360 = 0.996 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

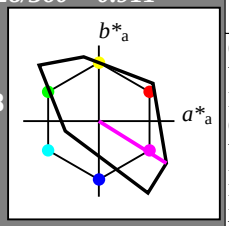
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 328/360 = 0.911**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

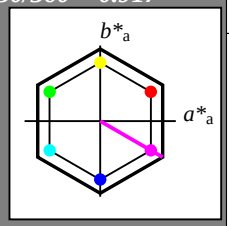
NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

3 step scales for constant CIELAB hue 328/360 = 0.911 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

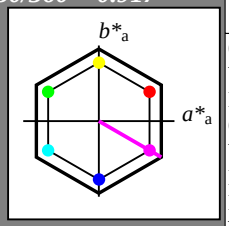
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

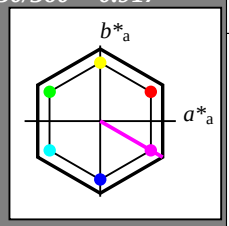
3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

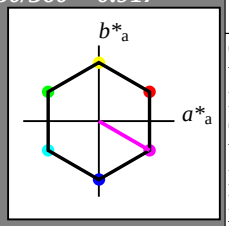
NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

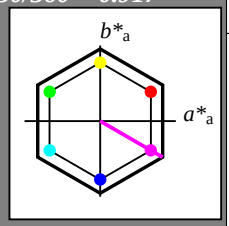
*n** = 1,0

3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

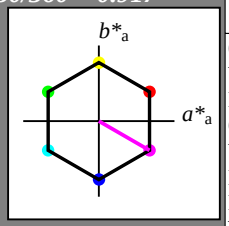
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

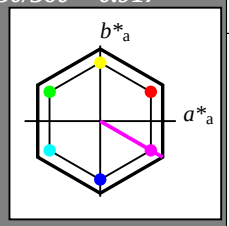
NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

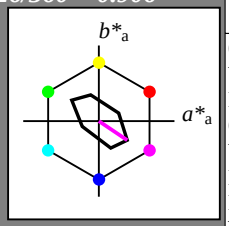
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 326/360 = 0.906**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

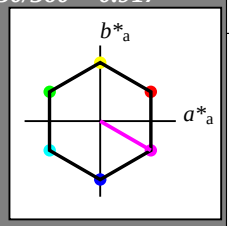
NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

3 step scales for constant CIELAB hue 326/360 = 0.906 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

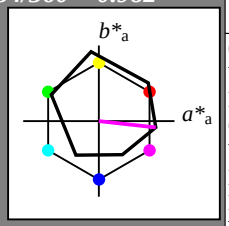
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

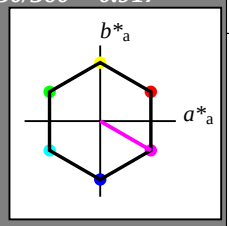
3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

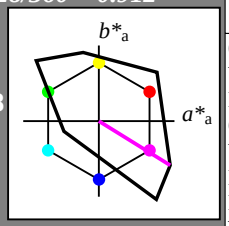
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 328/360 = 0.912**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

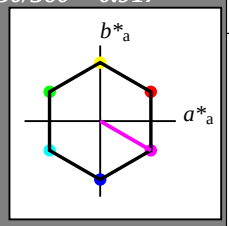
NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

3 step scales for constant CIELAB hue 328/360 = 0.912 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

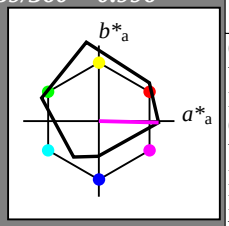
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 359/360 = 0.996**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

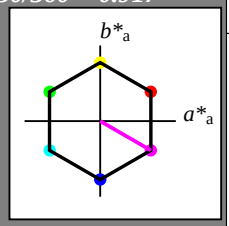
3 step scales for constant CIELAB hue 359/360 = 0.996 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

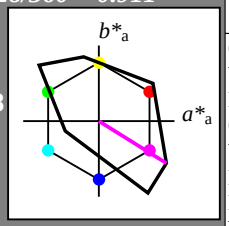
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 328/360 = 0.911**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

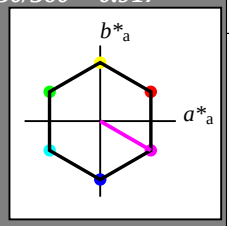
3 step scales for constant CIELAB hue 328/360 = 0.911 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

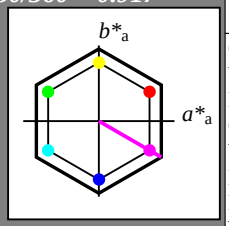
*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

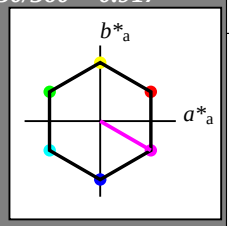
NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

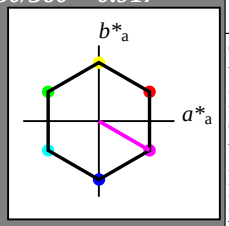
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

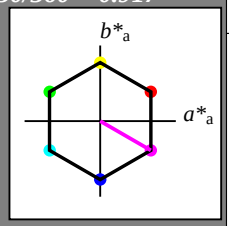
*n** = 1,0

3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

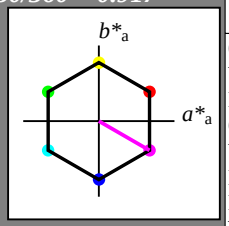
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

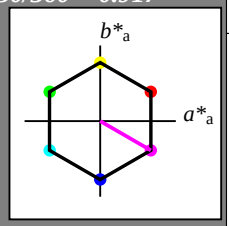
3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

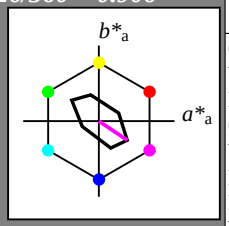
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 326/360 = 0.906
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

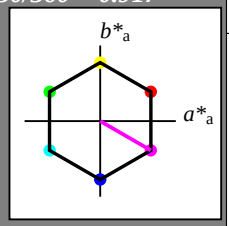
3 step scales for constant CIELAB hue 326/360 = 0.906 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

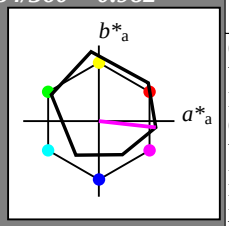
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 354/360 = 0.982
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

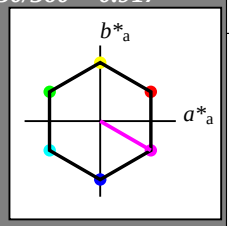
3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

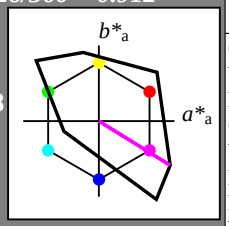
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 328/360 = 0.912**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

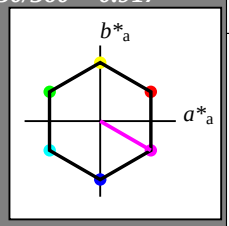
3 step scales for constant CIELAB hue 328/360 = 0.912 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 330/360 = 0.917
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

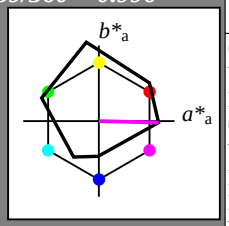
*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 359/360 = 0.996
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

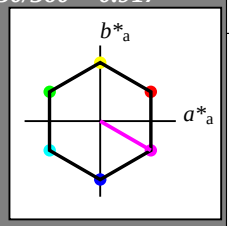
3 step scales for constant CIELAB hue 359/360 = 0.996 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

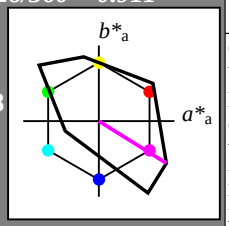
NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 328/360 = 0.911**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

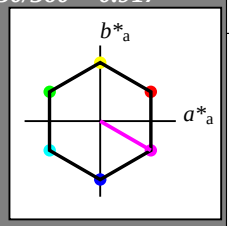
*n** = 1,0

3 step scales for constant CIELAB hue 328/360 = 0.911 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

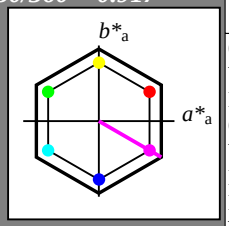
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

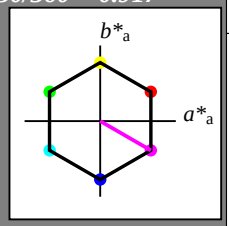
NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

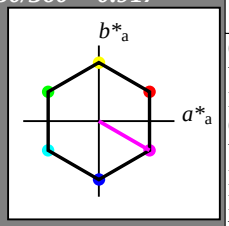
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

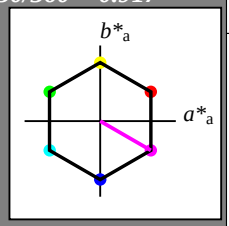
*n** = 1,0

3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

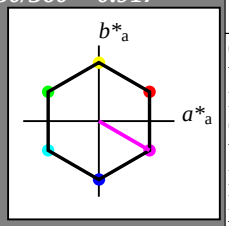
chromaticness *c**

*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

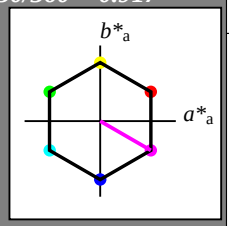
NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

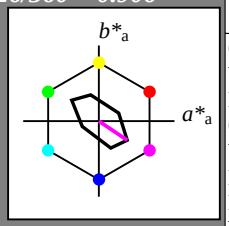
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 330/360 = 0.917 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 326/360 = 0.906**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

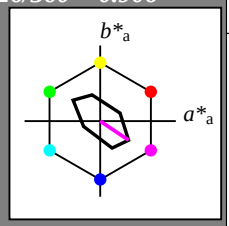
3 step scales for constant CIELAB hue 326/360 = 0.906 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 326/360 = 0.906**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

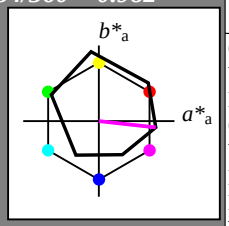
chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	37.84	−3.62
*LAB*LABa*	33.07	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.13	75.18	−6.79
*LAB*LABa*	48.13	75.26	−8.35
*LAB*TCHa*	50.0	75.73	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 326/360 = 0.906 (left)

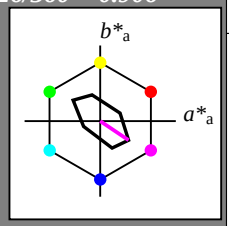
3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 326/360 = 0.906**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

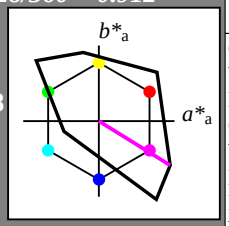
chromaticness *c**

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 328/360 = 0.912**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 111 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.35	47.17	−29.19
*LAB*LABa*	76.35	47.17	−29.19
*LAB*TCHa*	75.0	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.8	0.425	−0.262
*lab*tch*	0.75	0.5	0.912
*lab*nch*	0.0	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.8	0.352	−0.354
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.66	47.17	−29.19
*LAB*LABa*	28.66	47.17	−29.19
*LAB*TCHa*	25.01	55.47	328.23

relative* CIELAB *lab*

*lab*lab*	0.3	0.425	−0.262
*lab*tch*	0.25	0.5	0.912
*lab*nch*	0.5	0.5	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.3	0.352	−0.354
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	57.3	94.33	−58.4
*LAB*LABa*	57.3	94.33	−58.4
*LAB*TCHa*	50.0	110.95	328.23

relative* CIELAB *lab*

*lab*lab*	0.601	0.85	−0.525
*lab*tch*	0.5	1.0	0.912
*lab*nch*	0.0	1.0	0.912

***relative* Natural Colour (NC)**

*lab*lrj*	0.601	0.703	−0.71
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

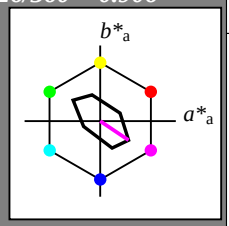
NE100−7, 3 step scales for constant CIELAB hue 326/360 = 0.906 (left)

3 step scales for constant CIELAB hue 328/360 = 0.912 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 326/360 = 0.906**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

***n** = 0,00**

blackness *n**

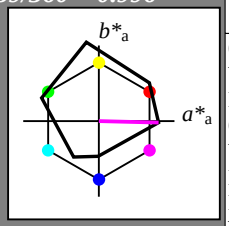
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 359/360 = 0.996**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 43 79 359
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.51	38.94	1.44
*LAB*LABa*	69.51	39.49	−0.97
*LAB*TCHa*	75.0	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.664	0.5	−0.011
*lab*tch*	0.75	0.5	0.996
*lab*nch*	0.0	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.664	0.469	−0.172
*lab*tce*	0.75	0.5	0.944
*lab*ncE*	0.0	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.64	38.29	1.18
*LAB*LABa*	29.64	39.49	−0.97
*LAB*TCHa*	25.01	39.51	358.58

relative* CIELAB *lab*

*lab*lab*	0.164	0.5	−0.011
*lab*tch*	0.25	0.5	0.996
*lab*nch*	0.5	0.5	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.164	0.469	−0.172
*lab*tce*	0.25	0.5	0.944
*lab*ncE*	0.5	0.5	b77r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.71	77.99	0.28
*LAB*LABa*	42.71	78.99	−1.95
*LAB*TCHa*	50.0	79.01	358.58

relative* CIELAB *lab*

*lab*lab*	0.328	0.999	−0.024
*lab*tch*	0.5	1.0	0.996
*lab*nch*	0.0	1.0	0.996

***relative* Natural Colour (NC)**

*lab*lrj*	0.328	0.938	−0.344
*lab*tce*	0.5	1.0	0.944
*lab*ncE*	0.0	1.0	b77r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 326/360 = 0.906 (left)

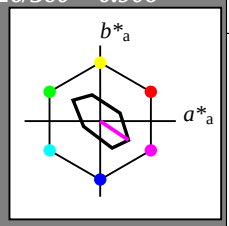
3 step scales for constant CIELAB hue 359/360 = 0.996 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 326/360 = 0.906**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

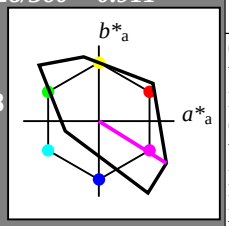
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 328/360 = 0.911**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 59 105 328
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.21	44.66	−27.82
*LAB*LABa*	77.21	44.66	−27.82
*LAB*TCHa*	75.0	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.765	0.424	−0.263
*lab*tch*	0.75	0.5	0.911
*lab*nch*	0.0	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.765	0.351	−0.355
*lab*tce*	0.75	0.5	0.874
*lab*ncE*	0.0	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.51	44.66	−27.82
*LAB*LABa*	38.51	44.66	−27.82
*LAB*TCHa*	25.01	52.62	328.06

relative* CIELAB *lab*

*lab*lab*	0.265	0.424	−0.263
*lab*tch*	0.25	0.5	0.911
*lab*nch*	0.5	0.5	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.265	0.351	−0.355
*lab*tce*	0.25	0.5	0.874
*lab*ncE*	0.5	0.5	b49r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.01	89.31	−55.66
*LAB*LABa*	59.01	89.31	−55.66
*LAB*TCHa*	50.0	105.24	328.06

relative* CIELAB *lab*

*lab*lab*	0.53	0.848	−0.528
*lab*tch*	0.5	1.0	0.911
*lab*nch*	0.0	1.0	0.911

***relative* Natural Colour (NC)**

*lab*lrj*	0.53	0.702	−0.711
*lab*tce*	0.5	1.0	0.874
*lab*ncE*	0.0	1.0	b49r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 326/360 = 0.906 (left)

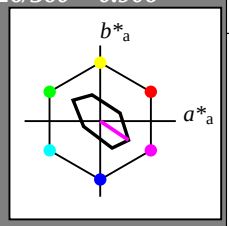
3 step scales for constant CIELAB hue 328/360 = 0.911 (right)

Input: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 326/360 = 0.906$
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
$u^*_{rel} = 16$
%Regularity
$g^*_{H,rel} = 34$
$g^*_{C,rel} = 51$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

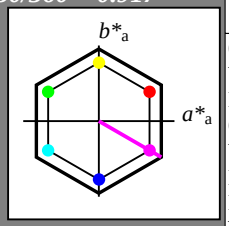
NE100−7, 3 step scales for constant CIELAB hue 326/360 = 0.906 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue $h^* = lab^*h = 330/360 = 0.917$
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 64 95 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
$u^*_{rel} = 152$
%Regularity
$g^*_{H,rel} = 100$
$g^*_{C,rel} = 100$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.5	41.3	−23.84
*LAB*LABa*	79.5	41.3	−23.84
*LAB*TCHa*	75.0	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.81	41.3	−23.84
*LAB*LABa*	31.81	41.3	−23.84
*LAB*TCHa*	25.01	47.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.61	82.6	−47.68
*LAB*LABa*	63.61	82.6	−47.68
*LAB*TCHa*	50.0	95.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

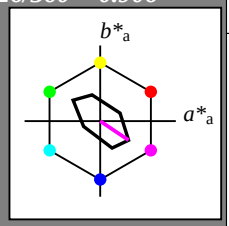
3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 326/360 = 0.906**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

*n** = 0,00

blackness ***n****

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness ***c****

*n** = 1,0

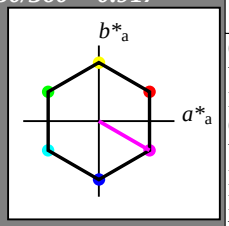
NE100−7, 3 step scales for constant CIELAB hue 326/360 = 0.906 (left)

Output: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 70 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.5	33.51	−19.34
*LAB*LABa*	82.5	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.833	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.833	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.81	33.51	−19.34
*LAB*LABa*	43.81	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.333	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.333	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.61	67.02	−38.68
*LAB*LABa*	69.61	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.667	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.667	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness ***n****

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness ***c****

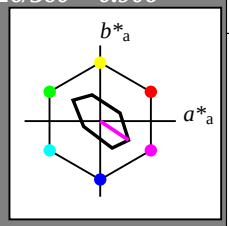
*n** = 1,0

3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 326/360 = 0.906**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

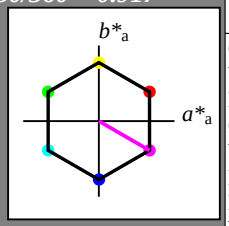
chromaticness *c**

*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 330/360 = 0.917**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 57 77 330
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	−19.34
*LAB*LABa*	76.06	33.51	−19.34
*LAB*TCHa*	75.0	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.75	0.433	−0.249
*lab*tch*	0.75	0.5	0.917
*lab*nch*	0.0	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.36	−0.346
*lab*tce*	0.75	0.5	0.878
*lab*ncE*	0.0	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	−19.34
*LAB*LABa*	37.36	33.51	−19.34
*LAB*TCHa*	25.01	38.69	330.0

relative* CIELAB *lab*

*lab*lab*	0.25	0.433	−0.249
*lab*tch*	0.25	0.5	0.917
*lab*nch*	0.5	0.5	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.36	−0.346
*lab*tce*	0.25	0.5	0.878
*lab*ncE*	0.5	0.5	b51r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	−38.68
*LAB*LABa*	56.71	67.02	−38.68
*LAB*TCHa*	50.0	77.38	330.0

relative* CIELAB *lab*

*lab*lab*	0.5	0.866	−0.499
*lab*tch*	0.5	1.0	0.917
*lab*nch*	0.0	1.0	0.917

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.72	−0.692
*lab*tce*	0.5	1.0	0.878
*lab*ncE*	0.0	1.0	b51r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

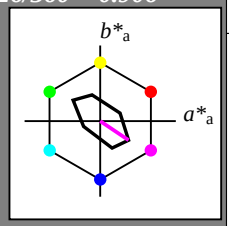
NE100−7, 3 step scales for constant CIELAB hue 326/360 = 0.906 (left)

3 step scales for constant CIELAB hue 330/360 = 0.917 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 326/360 = 0.906**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

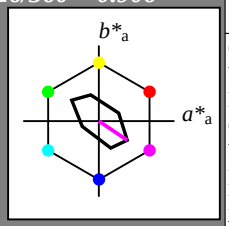
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 326/360 = 0.906 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 326/360 = 0.906**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 79 45 326
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.95	18.76	−12.61
*LAB*LABa*	86.95	18.76	−12.61
*LAB*TCHa*	75.0	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.671	0.415	−0.278
*lab*tch*	0.75	0.5	0.906
*lab*nch*	0.0	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.671	0.341	−0.365
*lab*tce*	0.75	0.5	0.869
*lab*ncE*	0.0	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	18.76	−12.61
*LAB*LABa*	74.1	18.76	−12.61
*LAB*TCHa*	25.01	22.61	326.07

relative* CIELAB *lab*

*lab*lab*	0.171	0.415	−0.278
*lab*tch*	0.25	0.5	0.906
*lab*nch*	0.5	0.5	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.171	0.341	−0.365
*lab*tce*	0.25	0.5	0.869
*lab*ncE*	0.5	0.5	b47r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.5	37.51	−25.22
*LAB*LABa*	78.5	37.51	−25.22
*LAB*TCHa*	50.0	45.21	326.07

relative* CIELAB *lab*

*lab*lab*	0.342	0.83	−0.557
*lab*tch*	0.5	1.0	0.906
*lab*nch*	0.0	1.0	0.906

***relative* Natural Colour (NC)**

*lab*lrj*	0.342	0.682	−0.73
*lab*tce*	0.5	1.0	0.869
*lab*ncE*	0.0	1.0	b47r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

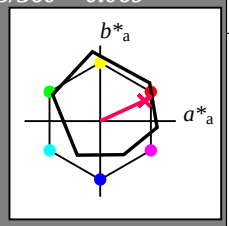
*n** = 1,0

3 step scales for constant CIELAB hue 326/360 = 0.906 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

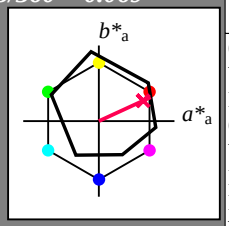
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

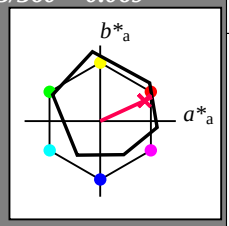
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

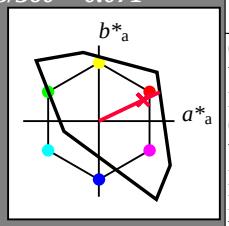
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

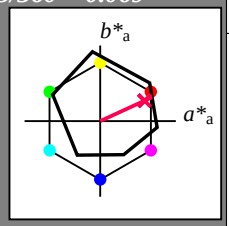
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness *n**

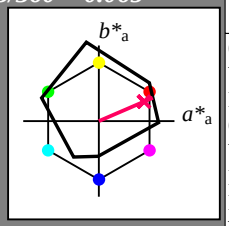
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 23/360 = 0.065**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

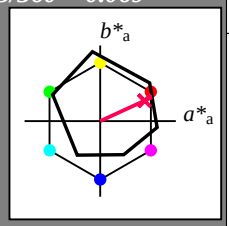
3 step scales for constant CIELAB hue 23/360 = 0.065 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 25/360 = 0.069
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u*$_{rel}$ = 93
%Regularity
g*$_{H,rel}$ = 57
g*$_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

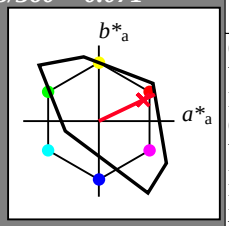
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 118
%Regularity
g*$_{H,rel}$ = 22
g*$_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0
*cmyn3**	0.0	0.0	0.0
*olvi4**	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

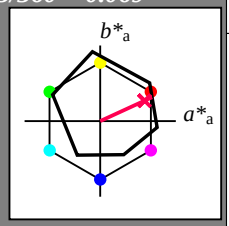
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

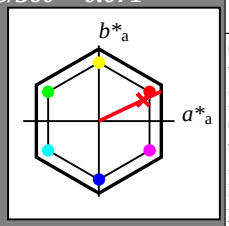
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

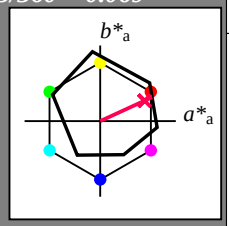
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

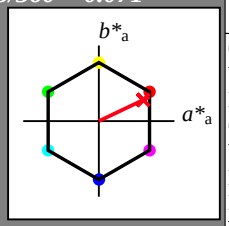
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

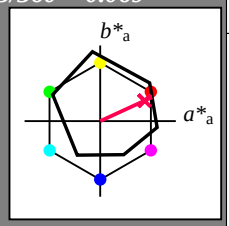
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 25/360 = 0.069
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

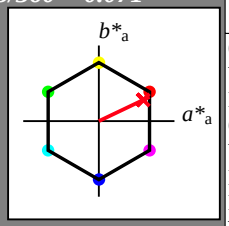
chromaticness c^*

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

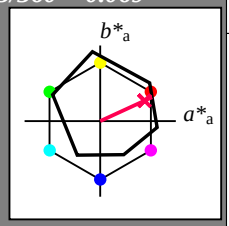
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 25/360 = 0.069
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

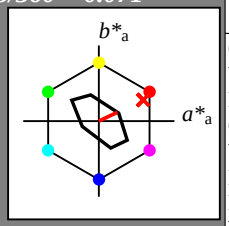
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

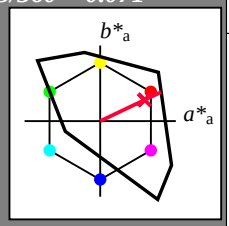
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***n** = 0,50**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

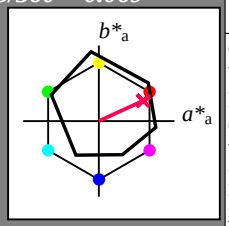
chromaticness ***c****

Output: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 25/360 = 0.069
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***n** = 0,50**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness ***c****

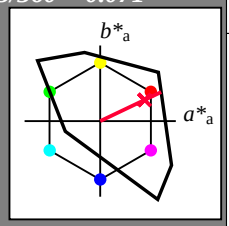
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

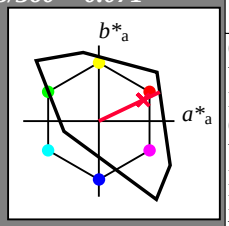
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

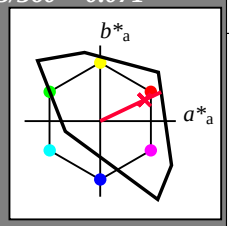
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

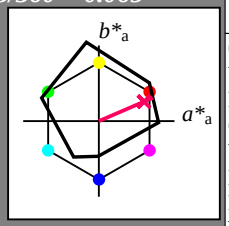
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 23/360 = 0.065**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

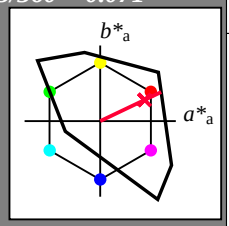
3 step scales for constant CIELAB hue 23/360 = 0.065 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

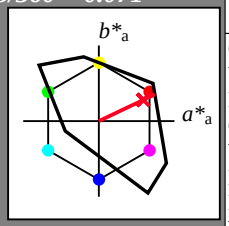
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

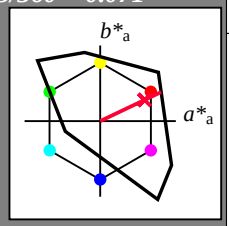
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness *n**

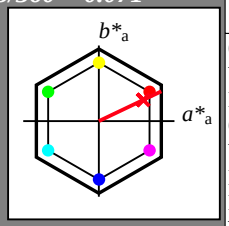
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

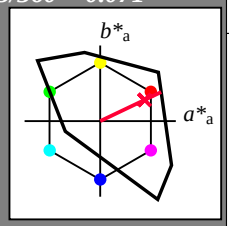
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

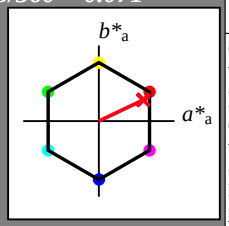
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

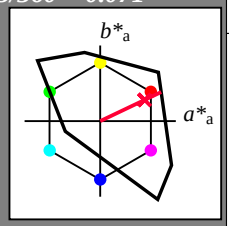
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

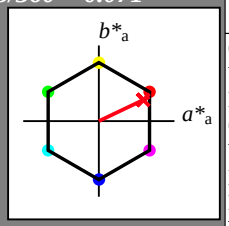
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 100
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

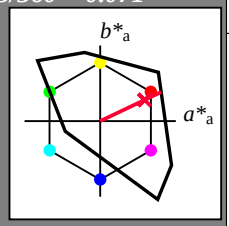
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

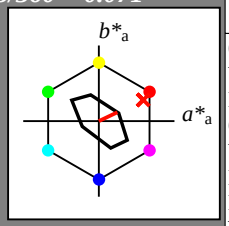
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

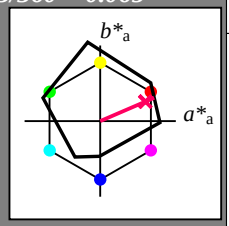
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 23/360 = 0.065
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

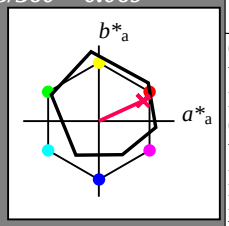
chromaticness c^*

Output: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 25/360 = 0.069
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

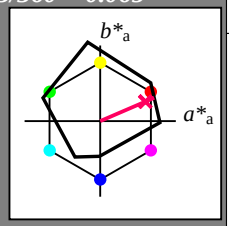
NE100−7, 3 step scales for constant CIELAB hue 23/360 = 0.065 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 23/360 = 0.065**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

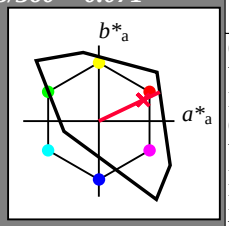
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0
*cmyn4**	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

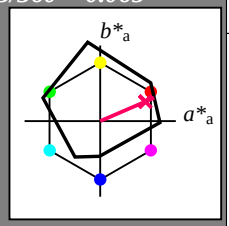
NE100−7, 3 step scales for constant CIELAB hue 23/360 = 0.065 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 23/360 = 0.065**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

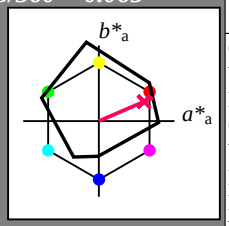
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 23/360 = 0.065 (left)

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 23/360 = 0.065**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

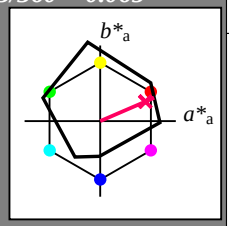
3 step scales for constant CIELAB hue 23/360 = 0.065 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h* = lab*h = 23/360 = 0.065*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

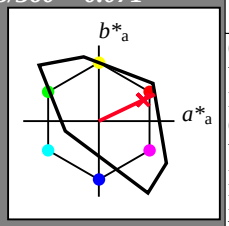
chromaticness c^*

Output: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 25/360 = 0.071*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0
*cmyn3**	0.0	0.0	0.0
*olvi4**	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

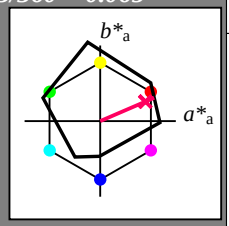
NE100−7, 3 step scales for constant CIELAB hue 23/360 = 0.065 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 23/360 = 0.065**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***n** = 0,50**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness *n**

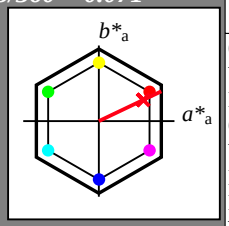
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

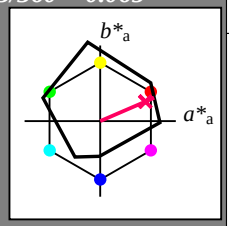
NE100−7, 3 step scales for constant CIELAB hue 23/360 = 0.065 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 23/360 = 0.065**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness *n**

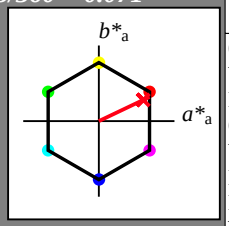
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 23/360 = 0.065 (left)

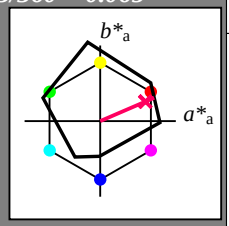
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 23/360 = 0.065
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

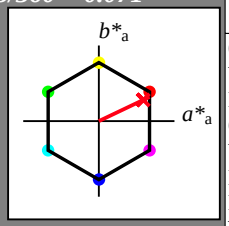
*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 23/360 = 0.065 (left)

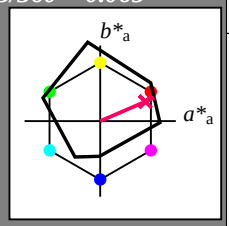
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h* = lab*h = 23/360 = 0.065*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

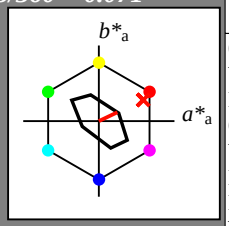
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h* = lab*h = 25/360 = 0.071*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

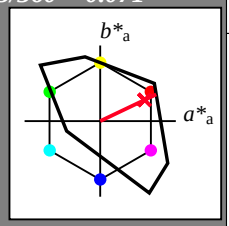
NE100−7, 3 step scales for constant CIELAB hue 23/360 = 0.065 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

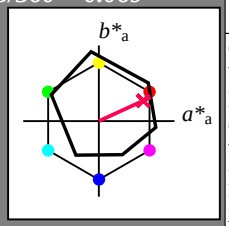
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

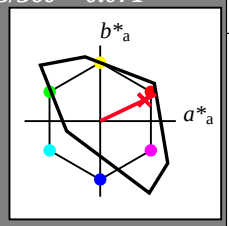
3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Television Luminous System TLS18

for hue $h^* = lab^*h = 25/360 = 0.071$
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

***relative* CIELAB *lab**

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

***relative* CIELAB *lab**

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

***relative* CIELAB *lab**

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

***relative* CIELAB *lab**

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

relative Natural Colour (NC)

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

***relative* CIELAB *lab**

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

relative Natural Colour (NC)

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

***relative* CIELAB *lab**

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

relative Natural Colour (NC)

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

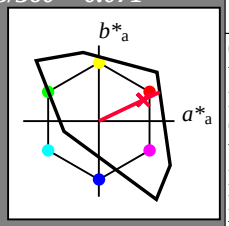
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 25/360 = 0.071$
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

***relative* CIELAB *lab**

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

***relative* CIELAB *lab**

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

***relative* CIELAB *lab**

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

***relative* CIELAB *lab**

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

relative Natural Colour (NC)

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

relative Inform. Technology (IT)

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

***relative* CIELAB *lab**

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

relative Natural Colour (NC)

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

relative Inform. Technology (IT)

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

***relative* CIELAB *lab**

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

relative Natural Colour (NC)

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

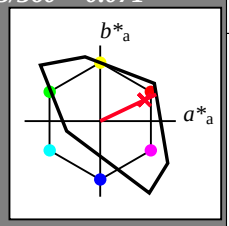
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness *n**

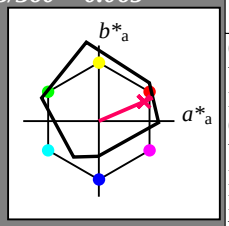
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 23/360 = 0.065**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

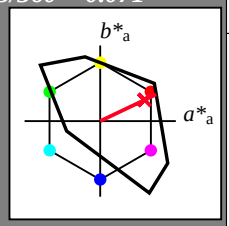
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 23/360 = 0.065 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

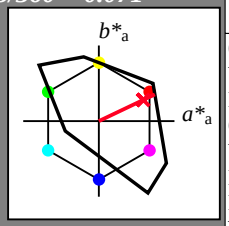
*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

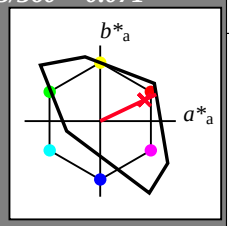
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness *n**

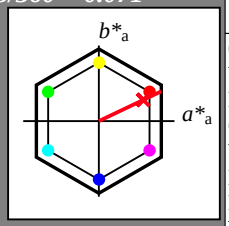
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

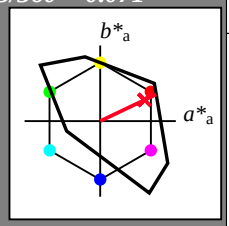
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

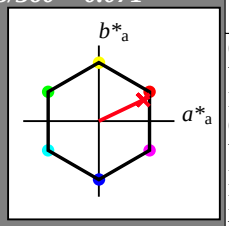
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

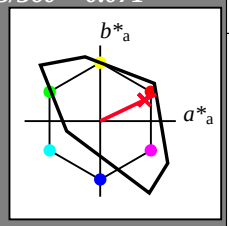
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 25/360 = 0.071*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

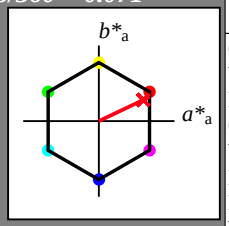
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18

for hue *h* = lab*h = 25/360 = 0.071*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

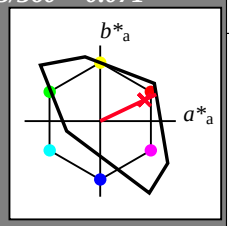
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 25/360 = 0.071*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

n^* = 0,00
blackness n^*
n^* = 0,50
0,25 0,50 0,75 1,00
chromaticness c^*
n^* = 1,0

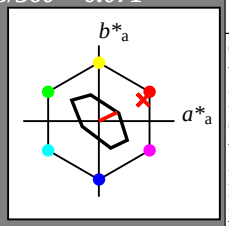
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS70

for hue *h* = lab*h = 25/360 = 0.071*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

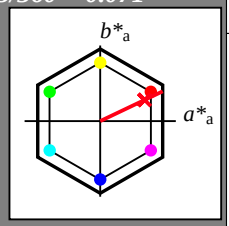
n^* = 0,00
blackness n^*
n^* = 0,50
0,25 0,50 0,75 1,00
chromaticness c^*
n^* = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

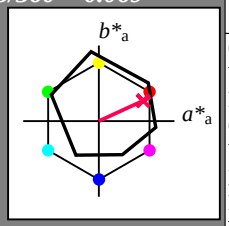
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

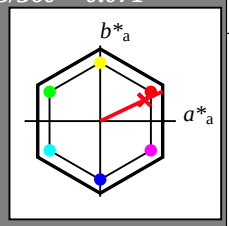
3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

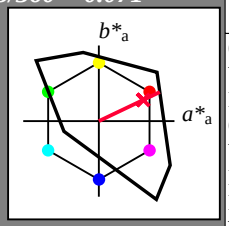
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

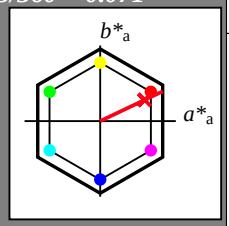
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness n^*

$n^* = 0{,}50$

0,25 0,50 0,75 1,00

chromaticness c^*

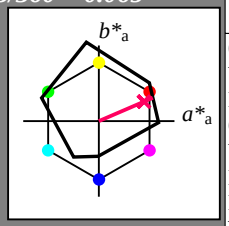
$n^* = 1{,}0$

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 23/360 = 0.065
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness n^*

$n^* = 0{,}50$

0,25 0,50 0,75 1,00

chromaticness c^*

$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

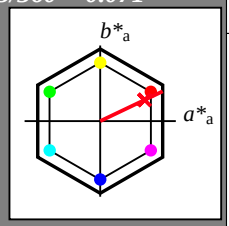
3 step scales for constant CIELAB hue 23/360 = 0.065 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

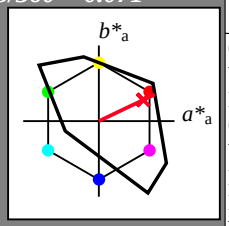
$n^* = 1{,}0$

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

$n^* = 1{,}0$

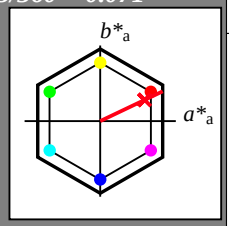
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

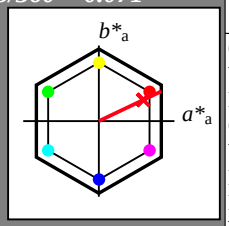
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

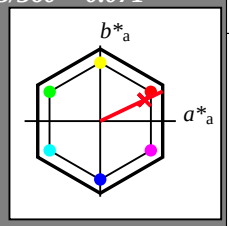
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

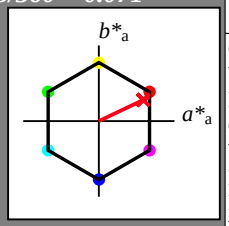
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

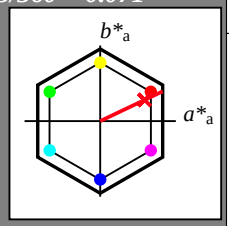
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

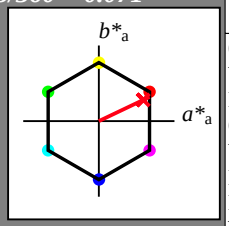
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

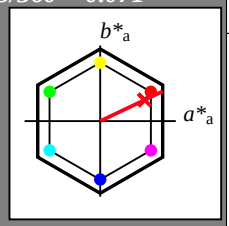
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

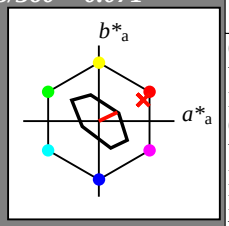
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

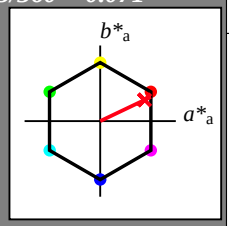
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

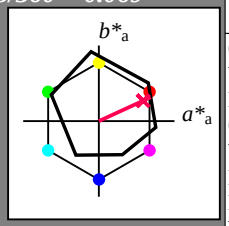
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 25/360 = 0.069
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

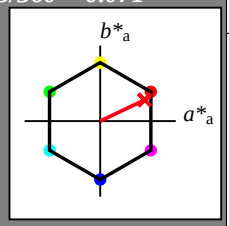
3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

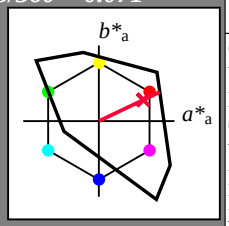
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

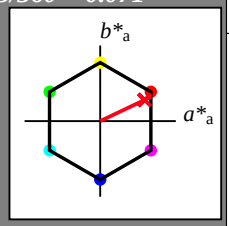
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

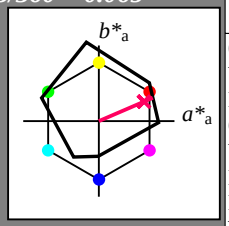
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 23/360 = 0.065
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0
*cmyn3**	0.0	0.0	0.0
*olvi4**	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

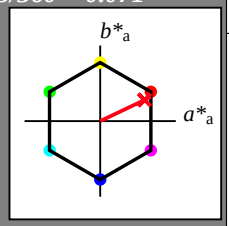
3 step scales for constant CIELAB hue 23/360 = 0.065 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

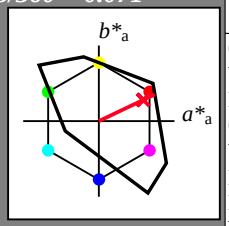
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

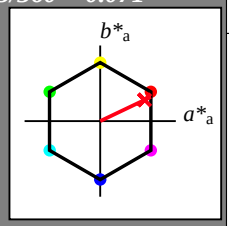
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

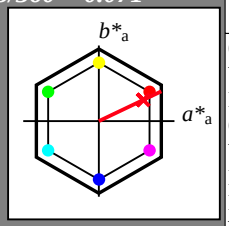
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

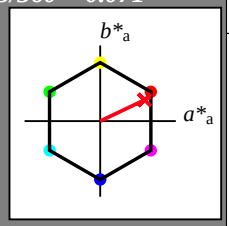
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

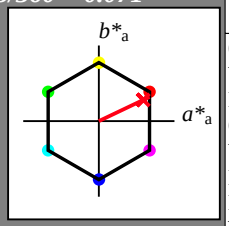
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

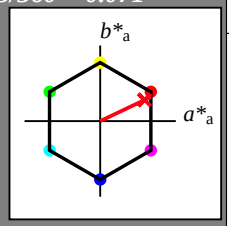
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

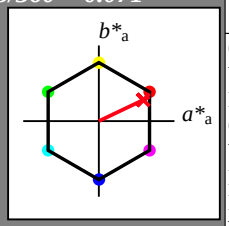
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

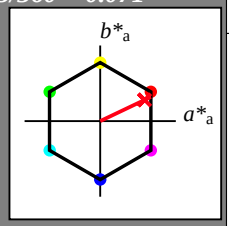
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

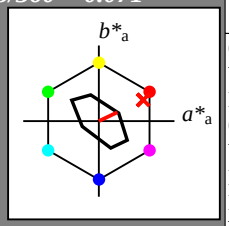
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

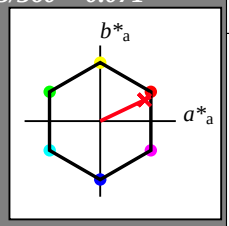
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

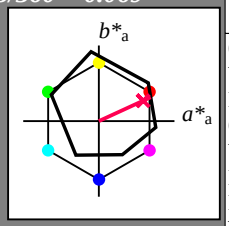
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 25/360 = 0.069
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

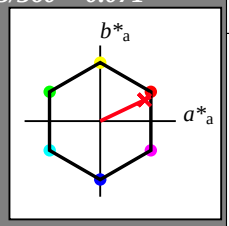
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness ***n****

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness ***c****

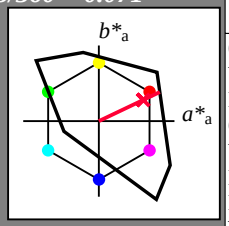
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness ***n****

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness ***c****

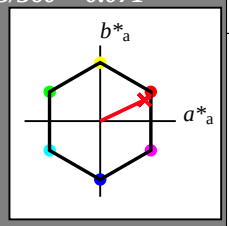
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

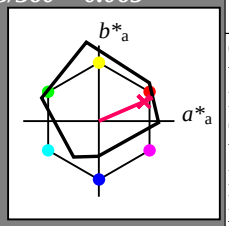
*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
*n** = 1,0
0,25
0,50
*n** = 0,50
0,75
1,00
chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 23/360 = 0.065**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
*n** = 1,0
0,25
0,50
*n** = 0,50
0,75
1,00
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

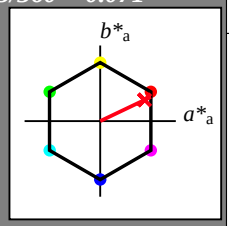
3 step scales for constant CIELAB hue 23/360 = 0.065 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

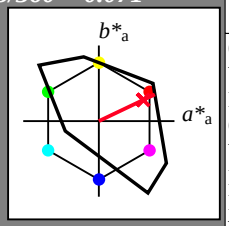
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

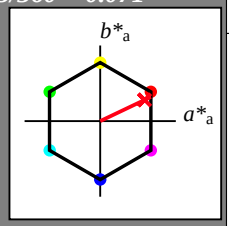
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

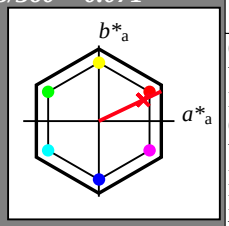
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

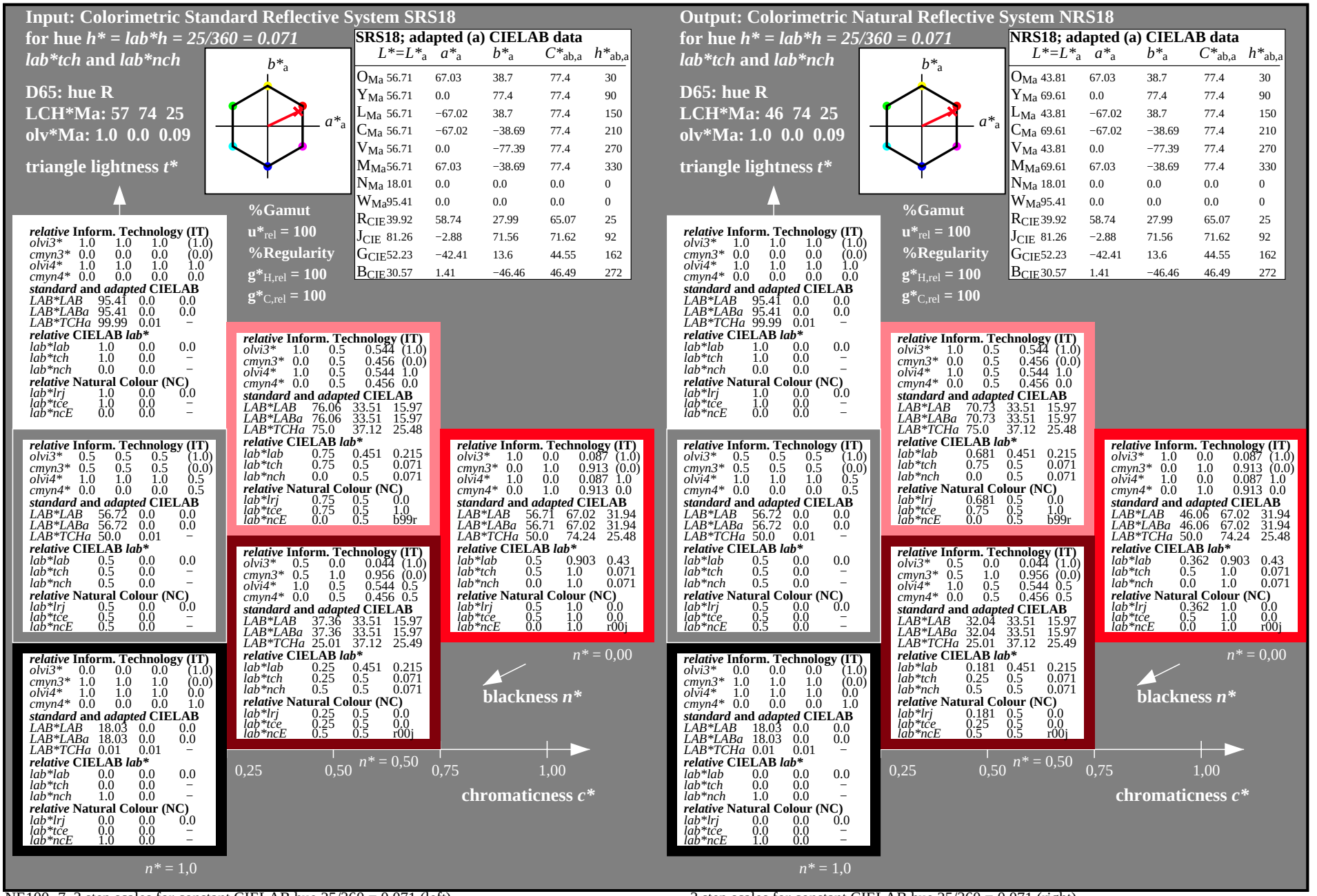
*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)



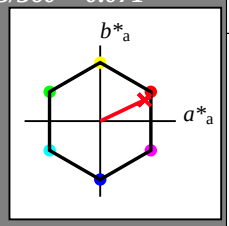
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544 (1.0)
*cmyn3**	0.0	0.5	0.456 (0.0)
*olvi4**	1.0	0.5	0.544 1.0
*cmyn4**	0.0	0.5	0.456 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044 (1.0)
*cmyn3**	0.5	1.0	0.956 (0.0)
*olvi4**	1.0	0.5	0.544 0.5
*cmyn4**	0.0	0.5	0.456 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087 (1.0)
*cmyn3**	0.0	1.0	0.913 (0.0)
*olvi4**	1.0	0.0	0.087 1.0
*cmyn4**	0.0	1.0	0.913 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

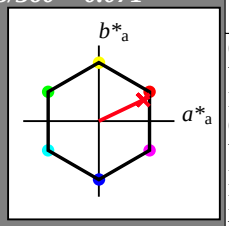
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544 (1.0)
*cmyn3**	0.0	0.5	0.456 (0.0)
*olvi4**	1.0	0.5	0.544 1.0
*cmyn4**	0.0	0.5	0.456 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044 (1.0)
*cmyn3**	0.5	1.0	0.956 (0.0)
*olvi4**	1.0	0.5	0.544 0.5
*cmyn4**	0.0	0.5	0.456 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087 (1.0)
*cmyn3**	0.0	1.0	0.913 (0.0)
*olvi4**	1.0	0.0	0.087 1.0
*cmyn4**	0.0	1.0	0.913 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

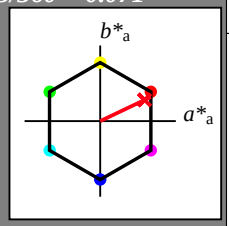
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

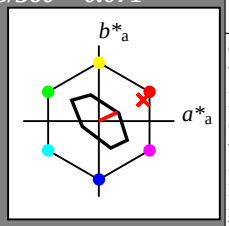
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

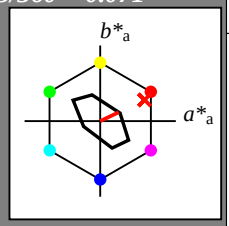
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

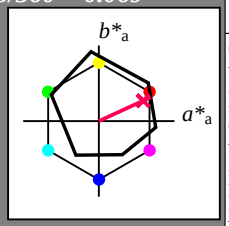
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.28	15.76
*LAB*TCHa*	75.0	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.28	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.322	1.0
*cmyn4**	0.0	1.0	0.678	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.0	68.48	33.09
*LAB*LABa*	48.0	68.56	31.53
*LAB*TCHa*	50.0	75.47	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

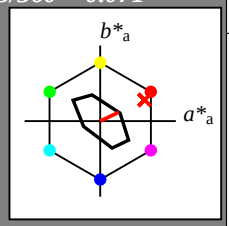
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

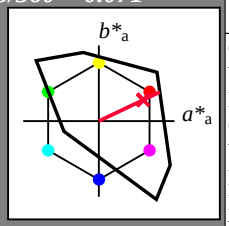
*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 52 89 25
olv*Ma: 1.0 0.0 0.21

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.606	(1.0)
*cmyn3**	0.0	0.5	0.394	(0.0)
*olvi4**	1.0	0.5	0.606	1.0
*cmyn4**	0.0	0.5	0.394	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.67	40.3	19.2
*LAB*LABa*	73.67	40.3	19.2
*LAB*TCHa*	75.0	44.64	25.47

relative* CIELAB *lab*

*lab*lab*	0.772	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.772	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.106	(1.0)
*cmyn3**	0.5	1.0	0.894	(0.0)
*olvi4**	1.0	0.5	0.606	0.5
*cmyn4**	0.0	0.5	0.394	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.98	40.3	19.21
*LAB*LABa*	25.98	40.3	19.21
*LAB*TCHa*	25.01	44.65	25.49

relative* CIELAB *lab*

*lab*lab*	0.272	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.272	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.213	(1.0)
*cmyn3**	0.0	1.0	0.787	(0.0)
*olvi4**	1.0	0.0	0.213	1.0
*cmyn4**	0.0	1.0	0.787	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.94	80.61	38.42
*LAB*LABa*	51.94	80.61	38.42
*LAB*TCHa*	50.0	89.29	25.48

relative* CIELAB *lab*

*lab*lab*	0.544	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.544	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

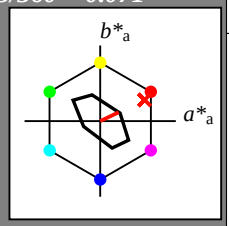
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

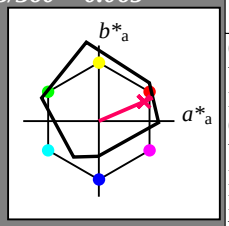
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 23/360 = 0.065**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 42 78 23
olv*Ma: 1.0 0.0 0.38

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.689	(1.0)
*cmyn3**	0.0	0.5	0.311	(0.0)
*olvi4**	1.0	0.5	0.689	1.0
*cmyn4**	0.0	0.5	0.311	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.35	35.14	17.8
*LAB*LABa*	69.35	35.7	15.39
*LAB*TCHa*	75.0	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.662	0.459	0.198
*lab*tch*	0.75	0.5	0.065
*lab*nch*	0.0	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.662	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.189	(1.0)
*cmyn3**	0.5	1.0	0.811	(0.0)
*olvi4**	1.0	0.5	0.689	0.5
*cmyn4**	0.0	0.5	0.311	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.48	34.49	17.55
*LAB*LABa*	29.48	35.7	15.39
*LAB*TCHa*	25.01	38.88	23.32

relative* CIELAB *lab*

*lab*lab*	0.162	0.459	0.198
*lab*tch*	0.25	0.5	0.065
*lab*nch*	0.5	0.5	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.162	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.377	(1.0)
*cmyn3**	0.0	1.0	0.623	(0.0)
*olvi4**	1.0	0.0	0.377	1.0
*cmyn4**	0.0	1.0	0.623	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.4	70.4	33.02
*LAB*LABa*	42.4	71.4	30.78
*LAB*TCHa*	50.0	77.75	23.32

relative* CIELAB *lab*

*lab*lab*	0.324	0.918	0.396
*lab*tch*	0.5	1.0	0.065
*lab*nch*	0.0	1.0	0.065

***relative* Natural Colour (NC)**

*lab*lrj*	0.324	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

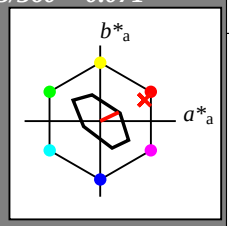
chromaticness *c**

3 step scales for constant CIELAB hue 23/360 = 0.065 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

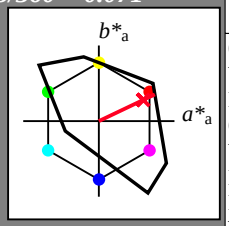
*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 54 82 25
olv*Ma: 1.0 0.0 0.14

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.569	(1.0)
*cmyn3**	0.0	0.5	0.431	(0.0)
*olvi4**	1.0	0.5	0.569	1.0
*cmyn4**	0.0	0.5	0.431	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.51	37.03	17.64
*LAB*LABa*	74.51	37.03	17.64
*LAB*TCHa*	75.0	41.02	25.48

relative* CIELAB *lab*

*lab*lab*	0.73	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.73	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.069	(1.0)
*cmyn3**	0.5	1.0	0.931	(0.0)
*olvi4**	1.0	0.5	0.569	0.5
*cmyn4**	0.0	0.5	0.431	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.82	37.03	17.65
*LAB*LABa*	35.82	37.03	17.65
*LAB*TCHa*	25.01	41.02	25.49

relative* CIELAB *lab*

*lab*lab*	0.23	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.23	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.138	(1.0)
*cmyn3**	0.0	1.0	0.862	(0.0)
*olvi4**	1.0	0.0	0.138	1.0
*cmyn4**	0.0	1.0	0.862	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.62	74.06	35.3
*LAB*LABa*	53.62	74.06	35.3
*LAB*TCHa*	50.0	82.04	25.48

relative* CIELAB *lab*

*lab*lab*	0.46	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.46	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

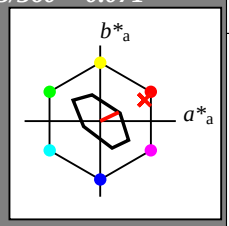
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

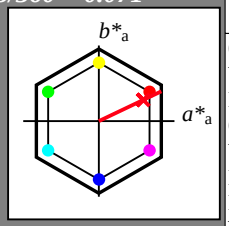
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 35 92 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.0	41.3	19.68
*LAB*LABa*	65.0	41.3	19.68
*LAB*TCHa*	75.0	45.75	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	17.3	41.3	19.69
*LAB*LABa*	17.3	41.3	19.69
*LAB*TCHa*	25.01	45.75	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.59	82.6	39.37
*LAB*LABa*	34.59	82.6	39.37
*LAB*TCHa*	50.0	91.51	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

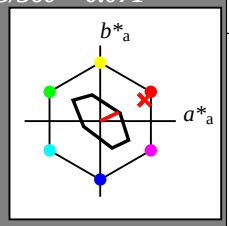
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

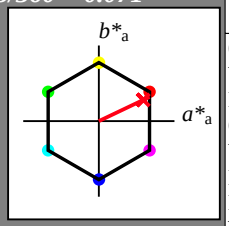
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 46 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.73	33.51	15.97
*LAB*LABa*	70.73	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.681	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.681	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.04	33.51	15.97
*LAB*LABa*	32.04	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.181	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.181	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	46.06	67.02	31.94
*LAB*LABa*	46.06	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.362	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.362	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

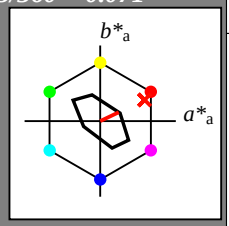
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

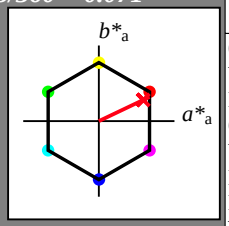
NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 74 25
olv*Ma: 1.0 0.0 0.09

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.544	(1.0)
*cmyn3**	0.0	0.5	0.456	(0.0)
*olvi4**	1.0	0.5	0.544	1.0
*cmyn4**	0.0	0.5	0.456	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	33.51	15.97
*LAB*LABa*	76.06	33.51	15.97
*LAB*TCHa*	75.0	37.12	25.48

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.044	(1.0)
*cmyn3**	0.5	1.0	0.956	(0.0)
*olvi4**	1.0	0.5	0.544	0.5
*cmyn4**	0.0	0.5	0.456	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	33.51	15.97
*LAB*LABa*	37.36	33.51	15.97
*LAB*TCHa*	25.01	37.12	25.49

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.087	(1.0)
*cmyn3**	0.0	1.0	0.913	(0.0)
*olvi4**	1.0	0.0	0.087	1.0
*cmyn4**	0.0	1.0	0.913	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	67.02	31.94
*LAB*LABa*	56.71	67.02	31.94
*LAB*TCHa*	50.0	74.24	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

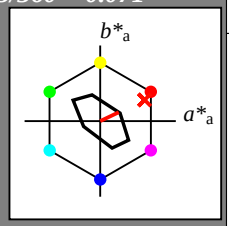
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

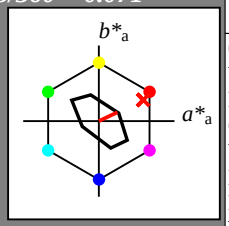
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 77 27 25
olv*Ma: 1.0 0.05 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.523	0.5	(1.0)
*cmyn3**	0.0	0.477	0.5	(0.0)
*olvi4**	1.0	0.523	0.5	1.0
*cmyn4**	0.0	0.477	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.33	12.27	5.85
*LAB*LABa*	86.33	12.27	5.85
*LAB*TCHa*	75.0	13.59	25.48

relative* CIELAB *lab*

*lab*lab*	0.647	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.647	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.023	0.0	(1.0)
*cmyn3**	0.5	0.977	1.0	(0.0)
*olvi4**	1.0	0.523	0.5	0.5
*cmyn4**	0.0	0.477	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.47	12.27	5.84
*LAB*LABa*	73.47	12.27	5.84
*LAB*TCHa*	25.01	13.59	25.46

relative* CIELAB *lab*

*lab*lab*	0.147	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.147	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.047	0.0	(1.0)
*cmyn3**	0.0	0.953	1.0	(0.0)
*olvi4**	1.0	0.047	0.0	1.0
*cmyn4**	0.0	0.953	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.25	24.54	11.69
*LAB*LABa*	77.25	24.54	11.69
*LAB*TCHa*	50.0	27.18	25.47

relative* CIELAB *lab*

*lab*lab*	0.294	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.294	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

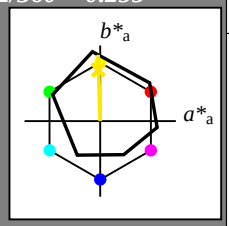
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

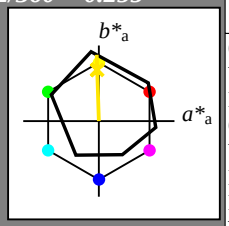
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

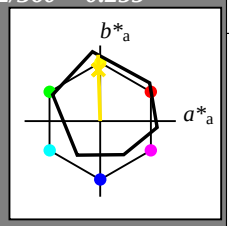
3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 92/360 = 0.255
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.902	0.0	1.0
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

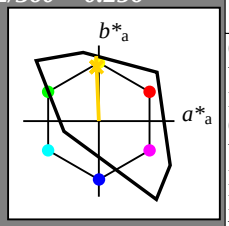
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

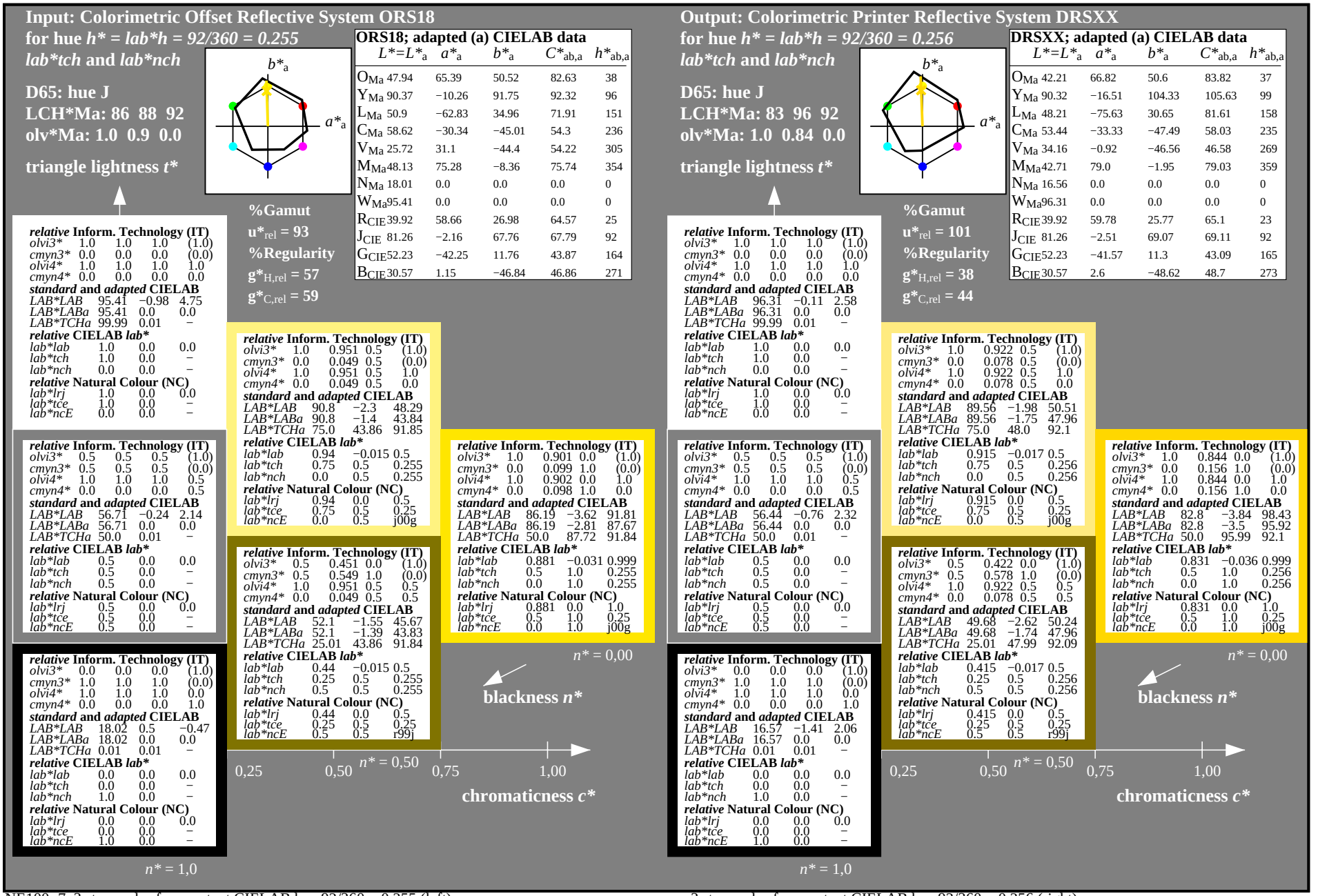
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)



NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

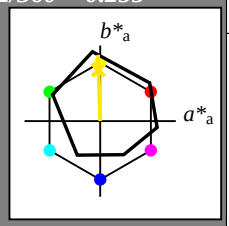
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 92/360 = 0.255
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.902	0.0	1.0
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

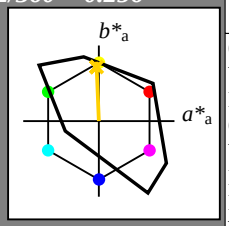
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

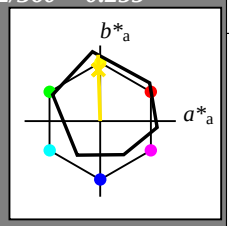
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.902	0.0	1.0
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

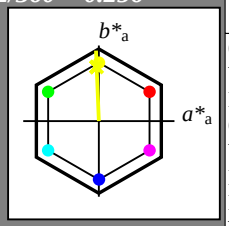
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 62 93 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.78	−1.86	46.61
*LAB*LABa*	78.78	−1.86	46.61
*LAB*TCHa*	75.0	46.65	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.09	−1.87	46.6
*LAB*LABa*	31.09	−1.87	46.6
*LAB*TCHa*	25.01	46.64	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.16	−3.75	93.21
*LAB*LABa*	62.16	−3.75	93.21
*LAB*TCHa*	50.0	93.29	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

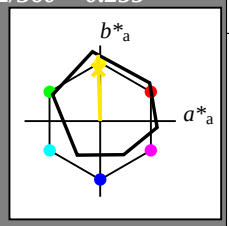
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

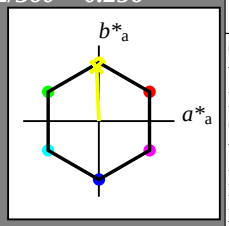
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

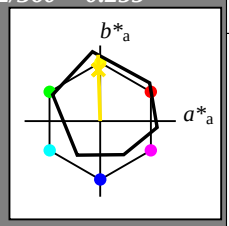
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 92/360 = 0.255
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

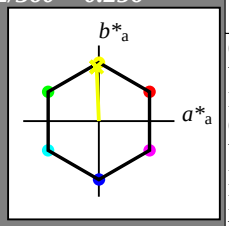
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

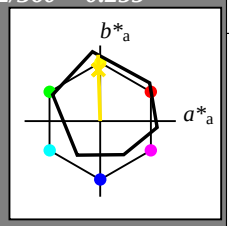
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 92/360 = 0.255
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.902	0.0	1.0
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

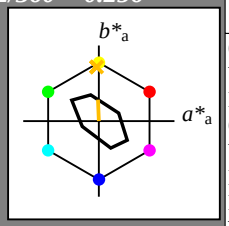
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.87	0.5	(1.0)
*cmyn3**	0.0	0.13	0.5	(0.0)
*olvi4**	1.0	0.87	0.5	1.0
*cmyn4**	0.0	0.13	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0	(1.0)
*cmyn3**	0.5	0.63	1.0	(0.0)
*olvi4**	1.0	0.87	0.5	0.5
*cmyn4**	0.0	0.13	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0	(1.0)
*cmyn3**	0.0	0.26	1.0	(0.0)
*olvi4**	1.0	0.74	0.0	1.0
*cmyn4**	0.0	0.26	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

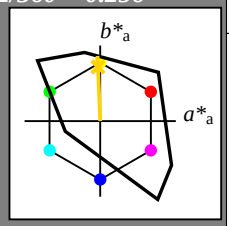
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

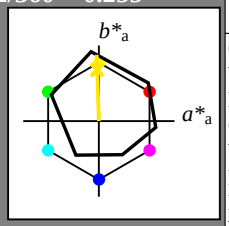
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

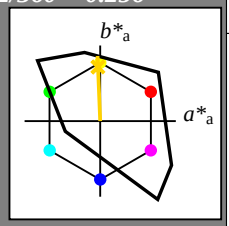
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

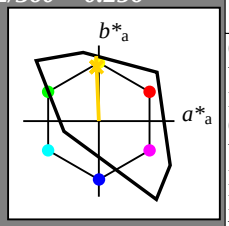
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

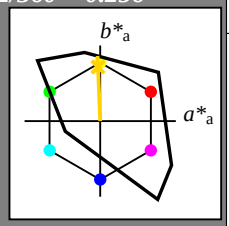
chromaticness *c**

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

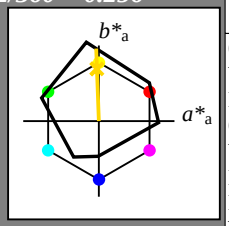
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.156	1.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.156	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

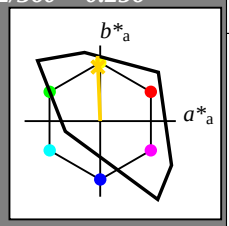
chromaticness *c**

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

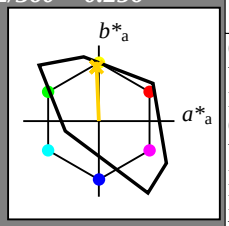
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 118
%Regularity
g*$_{H,rel}$ = 22
g*$_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

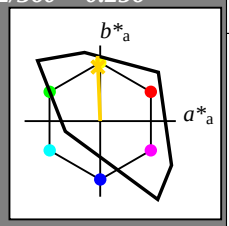
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

n* = 0,00

blackness ***n****

0,25 0,50 ***n**** = 0,50 0,75 1,00

chromaticness ***c****

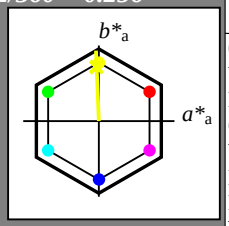
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 62 93 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.78	−1.86	46.61
*LAB*LABa*	78.78	−1.86	46.61
*LAB*TCHa*	75.0	46.65	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.09	−1.87	46.6
*LAB*LABa*	31.09	−1.87	46.6
*LAB*TCHa*	25.01	46.64	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.16	−3.75	93.21
*LAB*LABa*	62.16	−3.75	93.21
*LAB*TCHa*	50.0	93.29	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

n* = 0,00

blackness ***n****

0,25 0,50 ***n**** = 0,50 0,75 1,00

chromaticness ***c****

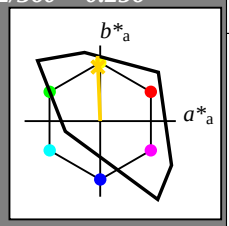
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 158
%Regularity
g*$_{H,rel}$ = 20
g*$_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

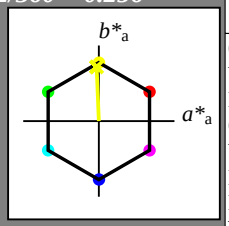
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 100
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

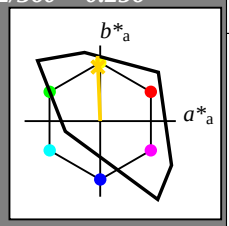
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

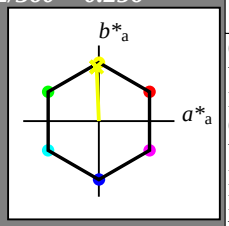
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

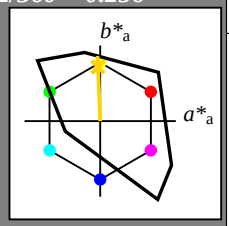
chromaticness *c**

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***n** = 0,00**

blackness *n**

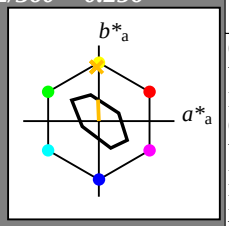
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.87	0.5	(1.0)
*cmyn3**	0.0	0.13	0.5	(0.0)
*olvi4**	1.0	0.87	0.5	1.0
*cmyn4**	0.0	0.13	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0	(1.0)
*cmyn3**	0.5	0.63	1.0	(0.0)
*olvi4**	1.0	0.87	0.5	0.5
*cmyn4**	0.0	0.13	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0	(1.0)
*cmyn3**	0.0	0.26	1.0	(0.0)
*olvi4**	1.0	0.74	0.0	1.0
*cmyn4**	0.0	0.26	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

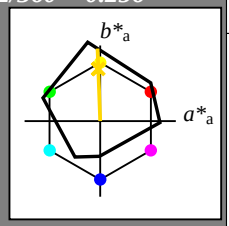
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.844	0.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.844	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

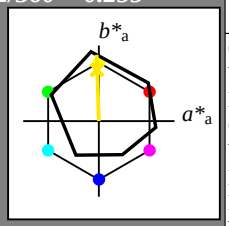
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

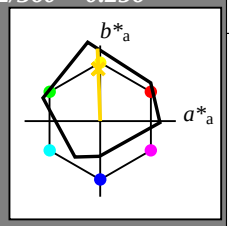
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.156	1.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.156	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

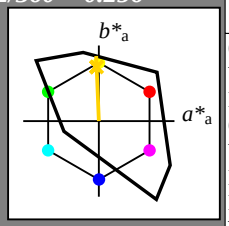
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

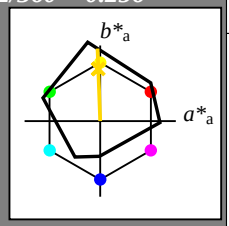
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u*$_{rel}$ = 101
%Regularity
g*$_{H,rel}$ = 38
g*$_{C,rel}$ = 44

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

relative Natural Colour (NC)

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

relative Inform. Technology (IT)

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

relative Natural Colour (NC)

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

relative Inform. Technology (IT)

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.156	1.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.156	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

relative Natural Colour (NC)

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

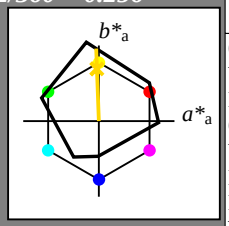
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Printer Reflective System DRSXX

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u*$_{rel}$ = 101
%Regularity
g*$_{H,rel}$ = 38
g*$_{C,rel}$ = 44

relative Inform. Technology (IT)

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

relative Inform. Technology (IT)

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

relative Natural Colour (NC)

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

relative Inform. Technology (IT)

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

relative Natural Colour (NC)

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

relative Inform. Technology (IT)

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

relative Natural Colour (NC)

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

relative Inform. Technology (IT)

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.156	1.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.156	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

relative Natural Colour (NC)

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

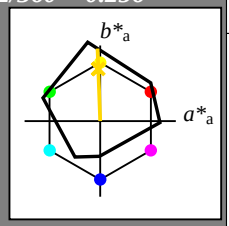
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.844	0.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.844	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

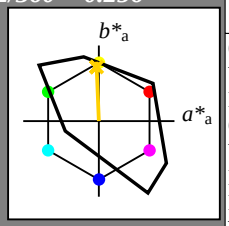
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

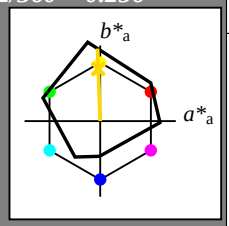
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.156	1.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.156	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***n** = 0,00**

blackness *n**

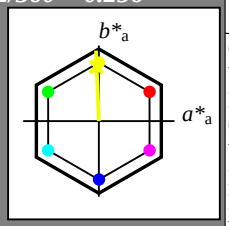
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 62 93 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.78	−1.86	46.61
*LAB*LABa*	78.78	−1.86	46.61
*LAB*TCHa*	75.0	46.65	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.09	−1.87	46.6
*LAB*LABa*	31.09	−1.87	46.6
*LAB*TCHa*	25.01	46.64	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.16	−3.75	93.21
*LAB*LABa*	62.16	−3.75	93.21
*LAB*TCHa*	50.0	93.29	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

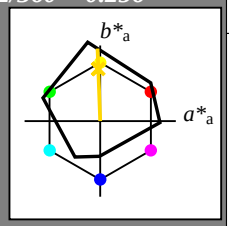
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.156	1.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.156	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

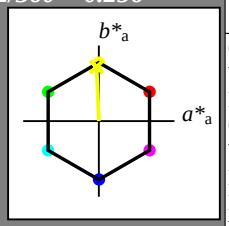
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

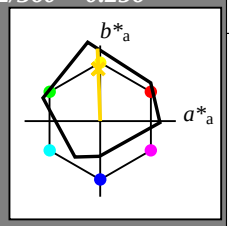
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.156	1.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.156	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

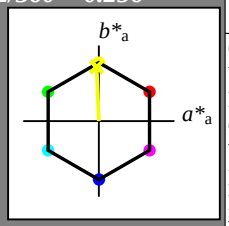
chromaticness *c**

*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

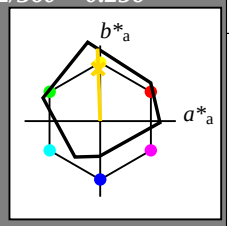
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.844	0.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.844	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

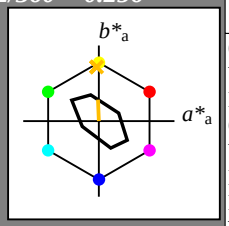
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.87	0.5	(1.0)
*cmyn3**	0.0	0.13	0.5	(0.0)
*olvi4**	1.0	0.87	0.5	1.0
*cmyn4**	0.0	0.13	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0	(1.0)
*cmyn3**	0.5	0.63	1.0	(0.0)
*olvi4**	1.0	0.87	0.5	0.5
*cmyn4**	0.0	0.13	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0	(1.0)
*cmyn3**	0.0	0.26	1.0	(0.0)
*olvi4**	1.0	0.74	0.0	1.0
*cmyn4**	0.0	0.26	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

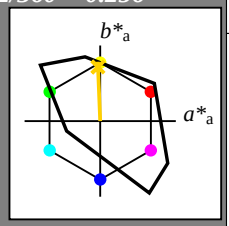
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

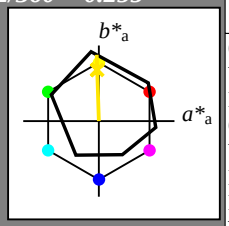
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

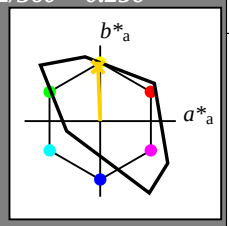
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

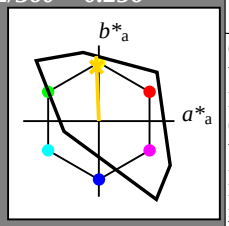
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

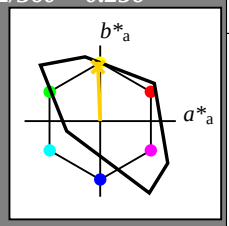
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***n** = 0,00**

blackness *n**

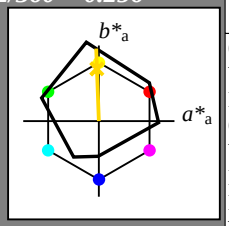
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.156	1.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.156	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

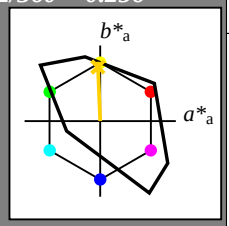
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

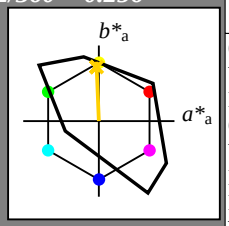
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

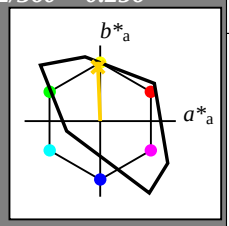
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

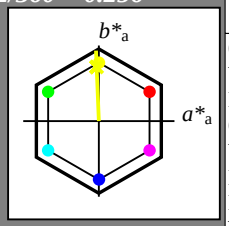
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 62 93 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.78	−1.86	46.61
*LAB*LABa*	78.78	−1.86	46.61
*LAB*TCHa*	75.0	46.65	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.09	−1.87	46.6
*LAB*LABa*	31.09	−1.87	46.6
*LAB*TCHa*	25.01	46.64	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.16	−3.75	93.21
*LAB*LABa*	62.16	−3.75	93.21
*LAB*TCHa*	50.0	93.29	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

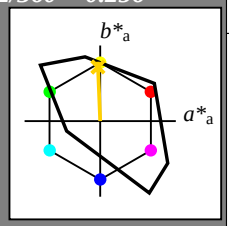
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

n^* = 0,00

blackness *n**

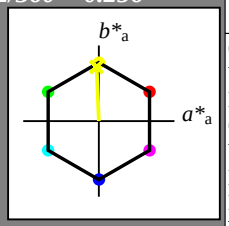
0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

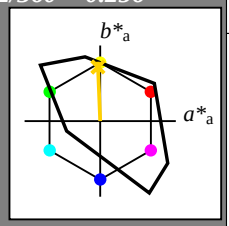
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

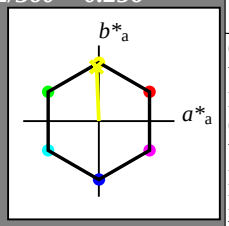
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

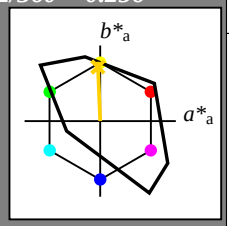
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 92/360 = 0.256*
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

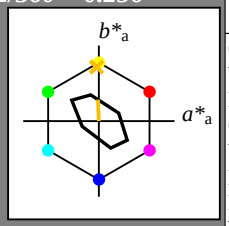
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS70

for hue *h* = lab*h = 92/360 = 0.256*
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.87	0.5	(1.0)
*cmyn3**	0.0	0.13	0.5	(0.0)
*olvi4**	1.0	0.87	0.5	1.0
*cmyn4**	0.0	0.13	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0	(1.0)
*cmyn3**	0.5	0.63	1.0	(0.0)
*olvi4**	1.0	0.87	0.5	0.5
*cmyn4**	0.0	0.13	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0	(1.0)
*cmyn3**	0.0	0.26	1.0	(0.0)
*olvi4**	1.0	0.74	0.0	1.0
*cmyn4**	0.0	0.26	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

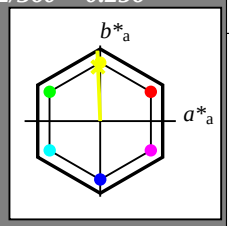
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 62 93 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.78	−1.86	46.61
*LAB*LABa*	78.78	−1.86	46.61
*LAB*TCHa*	75.0	46.65	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.16	−3.75	93.21
*LAB*LABa*	62.16	−3.75	93.21
*LAB*TCHa*	50.0	93.29	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.09	−1.87	46.6
*LAB*LABa*	31.09	−1.87	46.6
*LAB*TCHa*	25.01	46.64	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

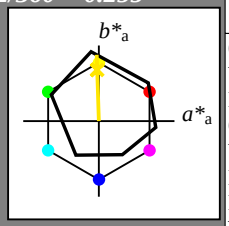
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

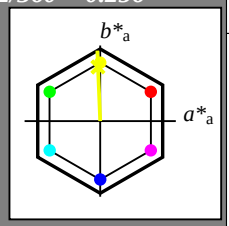
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 62 93 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.78	−1.86	46.61
*LAB*LABa*	78.78	−1.86	46.61
*LAB*TCHa*	75.0	46.65	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.16	−3.75	93.21
*LAB*LABa*	62.16	−3.75	93.21
*LAB*TCHa*	50.0	93.29	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.09	−1.87	46.6
*LAB*LABa*	31.09	−1.87	46.6
*LAB*TCHa*	25.01	46.64	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

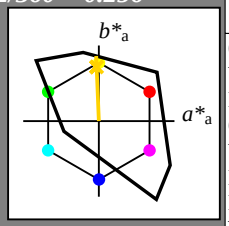
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

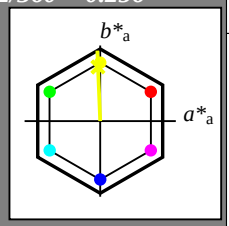
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 62 93 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.78	−1.86	46.61
*LAB*LABa*	78.78	−1.86	46.61
*LAB*TCHa*	75.0	46.65	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.09	−1.87	46.6
*LAB*LABa*	31.09	−1.87	46.6
*LAB*TCHa*	25.01	46.64	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.16	−3.75	93.21
*LAB*LABa*	62.16	−3.75	93.21
*LAB*TCHa*	50.0	93.29	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

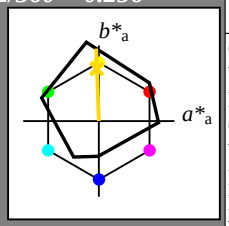
*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.156	1.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.156	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

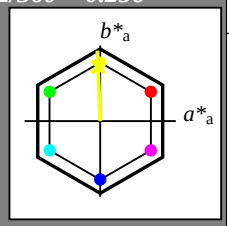
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 62 93 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.78	−1.86	46.61
*LAB*LABa*	78.78	−1.86	46.61
*LAB*TCHa*	75.0	46.65	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.16	−3.75	93.21
*LAB*LABa*	62.16	−3.75	93.21
*LAB*TCHa*	50.0	93.29	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.09	−1.87	46.6
*LAB*LABa*	31.09	−1.87	46.6
*LAB*TCHa*	25.01	46.64	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

$n^* = 0{,}00$

blackness *n**

$n^* = 0{,}50$

0,25 0,50 0,75 1,00

chromaticness *c**

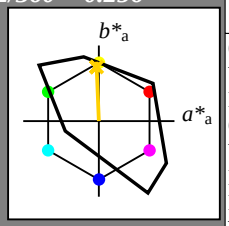
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

$n^* = 0{,}00$

blackness *n**

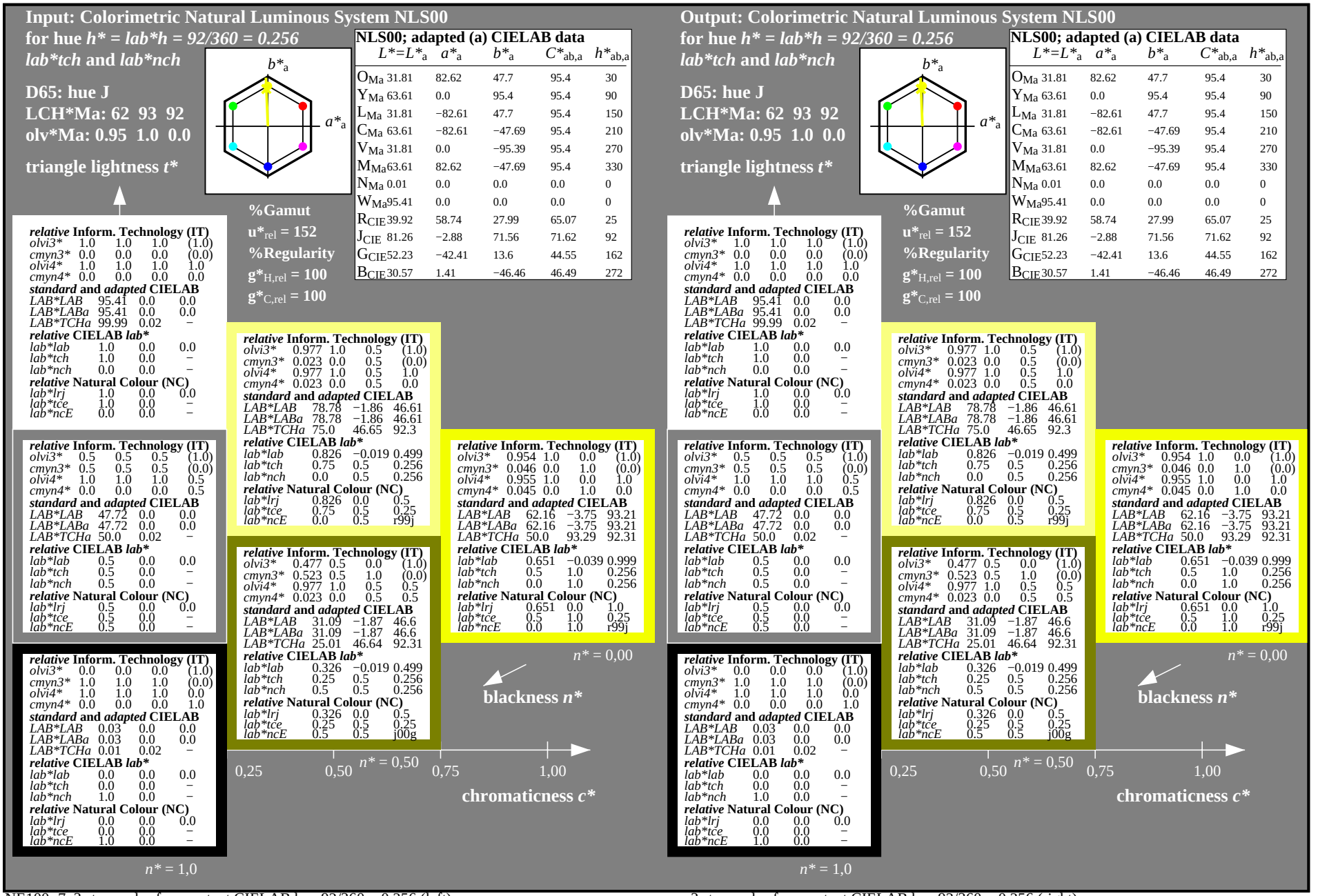
$n^* = 0{,}50$

0,25 0,50 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)



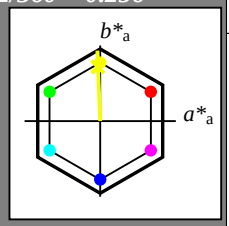
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 62 93 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.78	−1.86	46.61
*LAB*LABa*	78.78	−1.86	46.61
*LAB*TCHa*	75.0	46.65	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.16	−3.75	93.21
*LAB*LABa*	62.16	−3.75	93.21
*LAB*TCHa*	50.0	93.29	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.09	−1.87	46.6
*LAB*LABa*	31.09	−1.87	46.6
*LAB*TCHa*	25.01	46.64	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

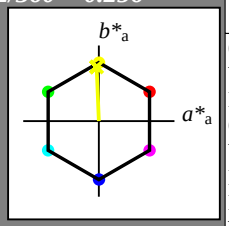
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

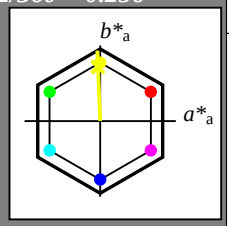
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 62 93 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.78	−1.86	46.61
*LAB*LABa*	78.78	−1.86	46.61
*LAB*TCHa*	75.0	46.65	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.16	−3.75	93.21
*LAB*LABa*	62.16	−3.75	93.21
*LAB*TCHa*	50.0	93.29	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.09	−1.87	46.6
*LAB*LABa*	31.09	−1.87	46.6
*LAB*TCHa*	25.01	46.64	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

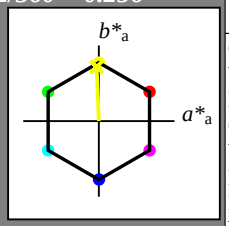
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

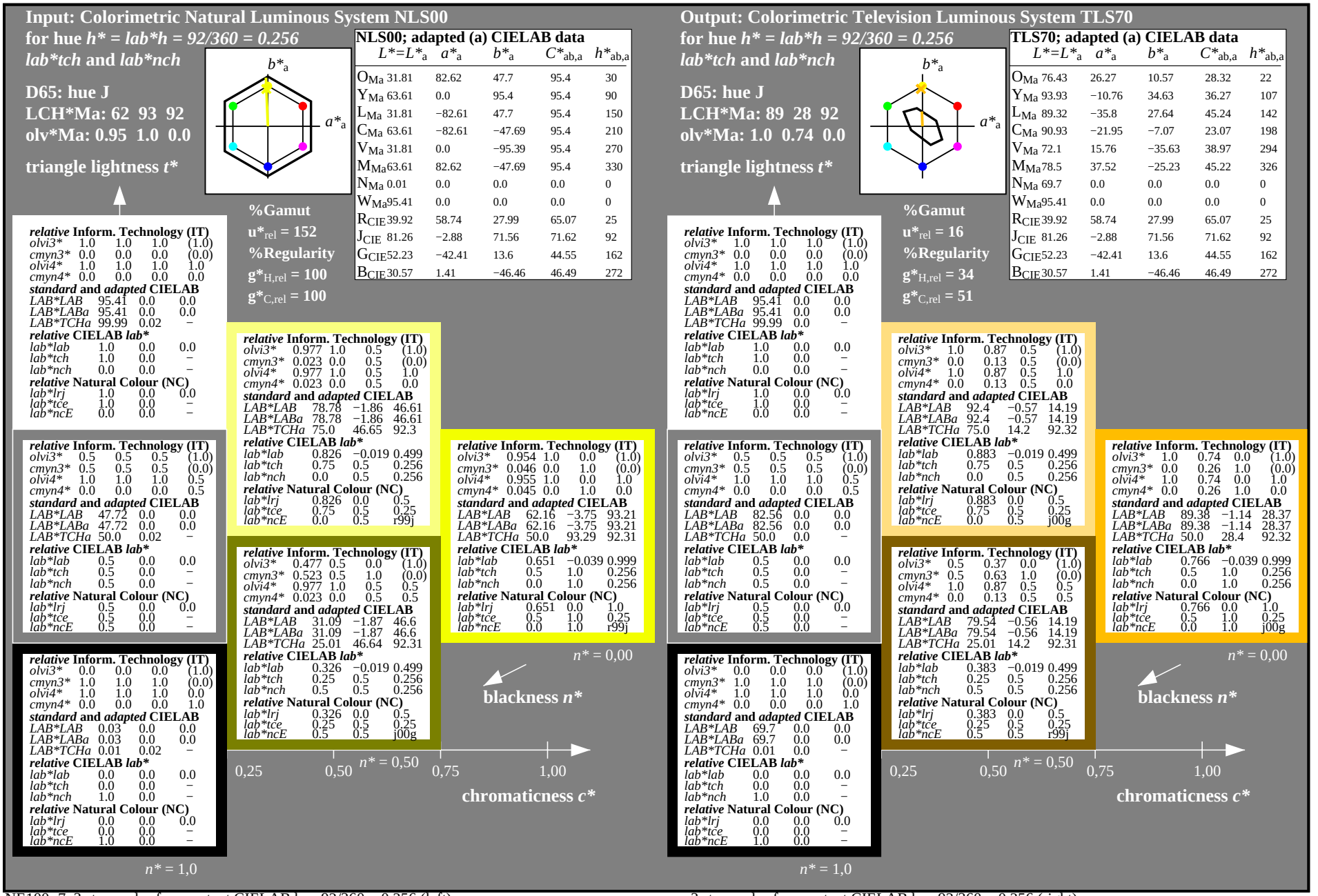
blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)



NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

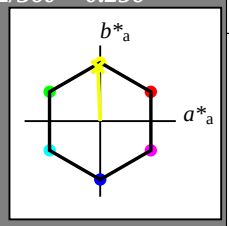
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

$n^* = 0{,}00$

blackness *n**

$n^* = 0{,}50$

0,25 0,50 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

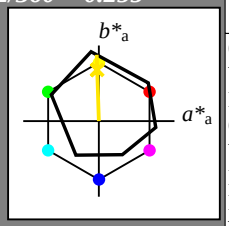
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

$n^* = 0{,}50$

0,25 0,50 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

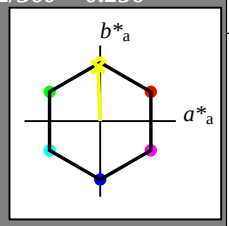
3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

$n^* = 0{,}50$

0,25 0,50 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

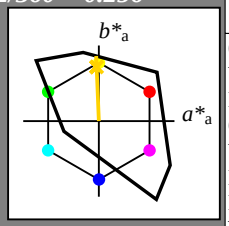
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

$n^* = 0{,}50$

0,25 0,50 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

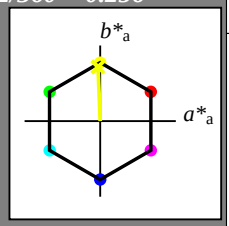
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

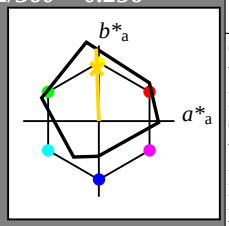
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.156	1.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.156	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

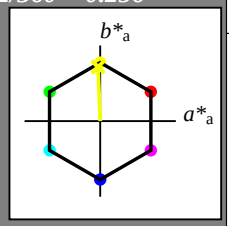
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

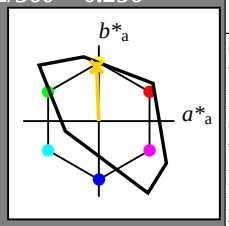
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

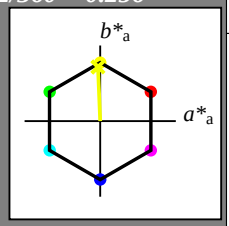
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

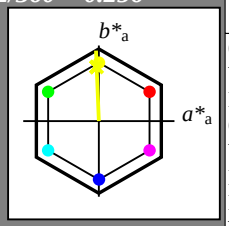
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 62 93 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.78	−1.86	46.61
*LAB*LABa*	78.78	−1.86	46.61
*LAB*TCHa*	75.0	46.65	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.16	−3.75	93.21
*LAB*LABa*	62.16	−3.75	93.21
*LAB*TCHa*	50.0	93.29	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.09	−1.87	46.6
*LAB*LABa*	31.09	−1.87	46.6
*LAB*TCHa*	25.01	46.64	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

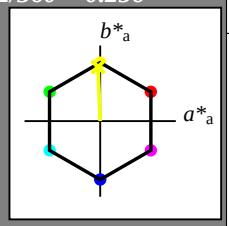
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

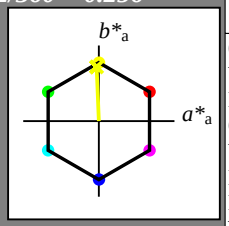
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

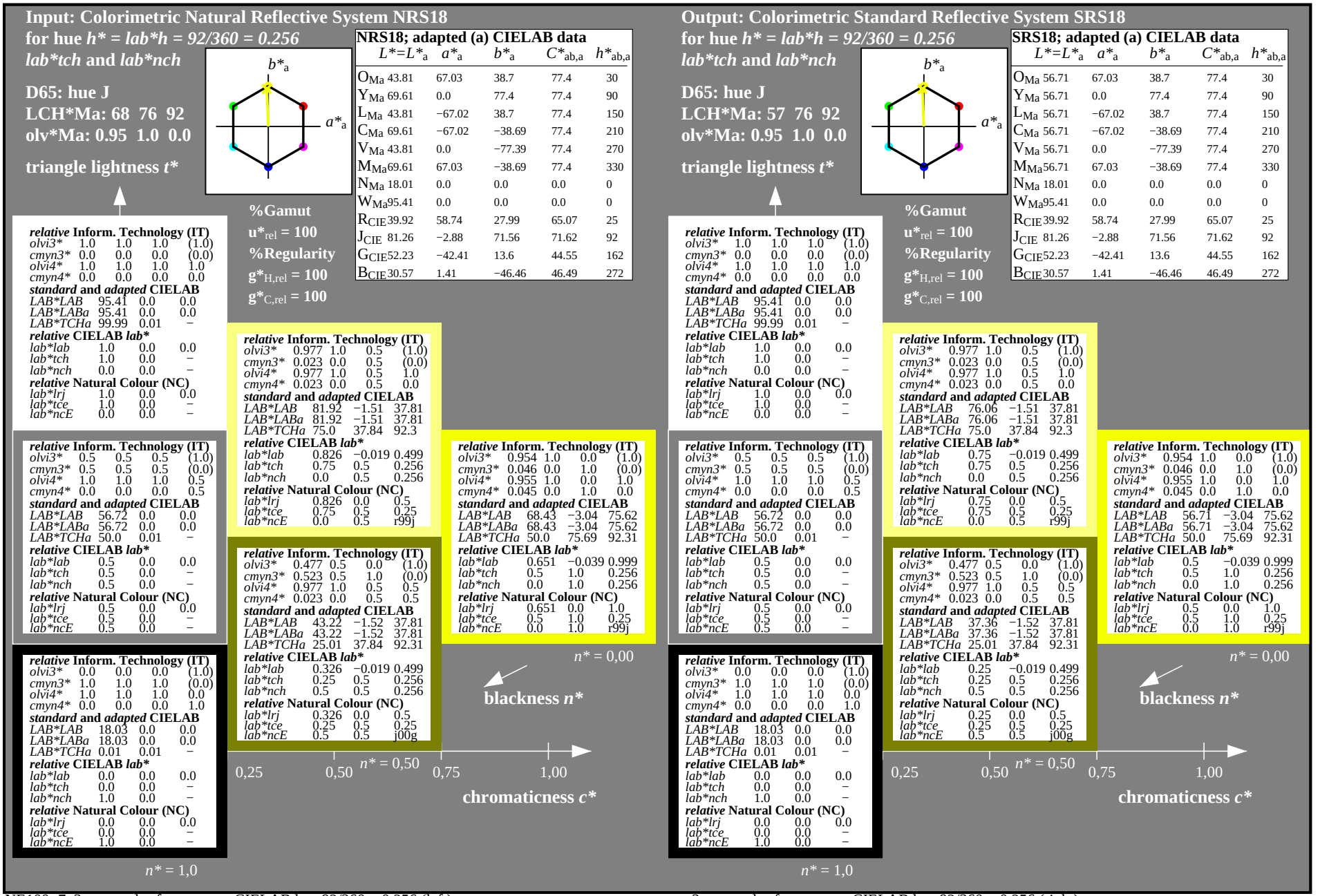
blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

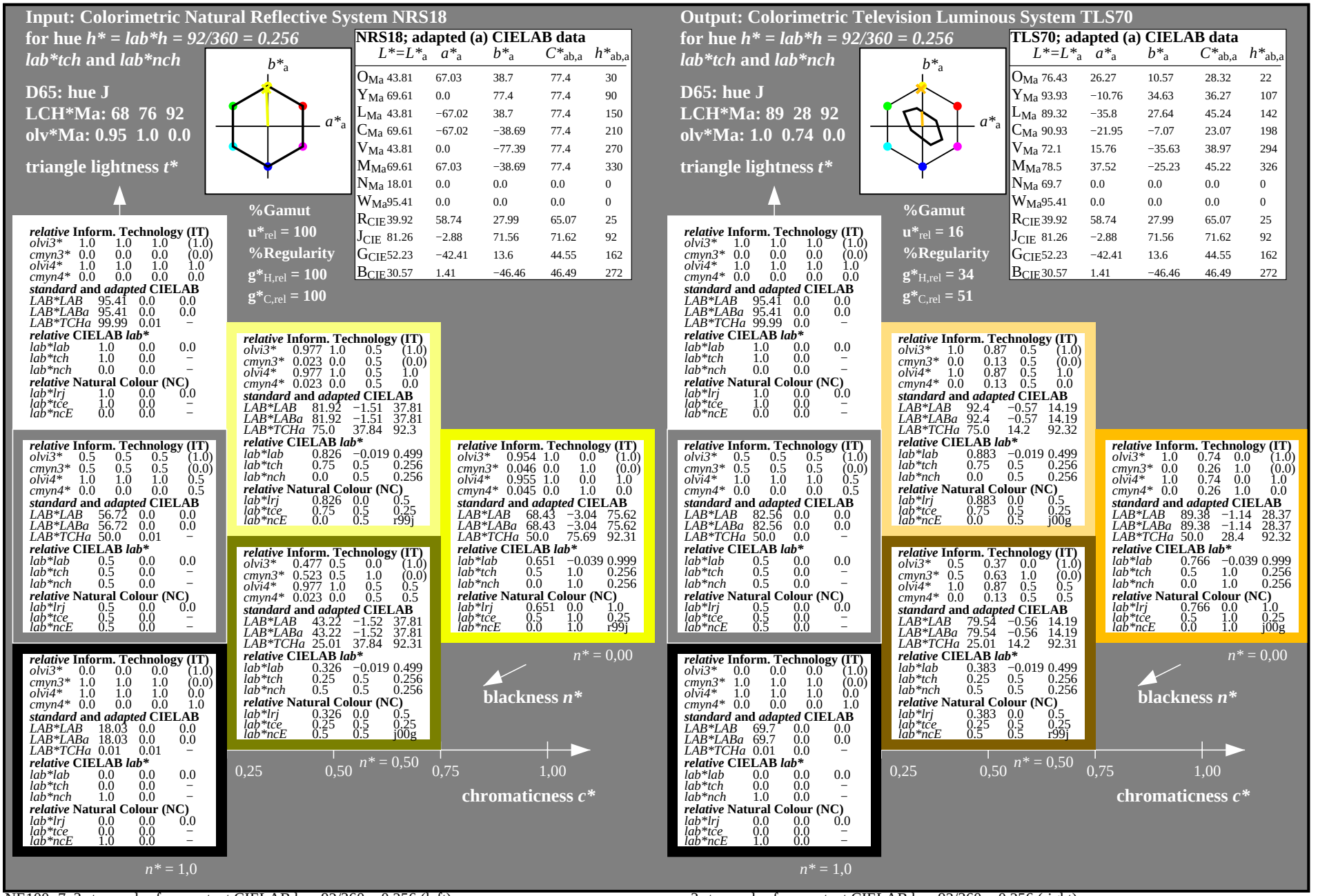
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)



NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)



NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

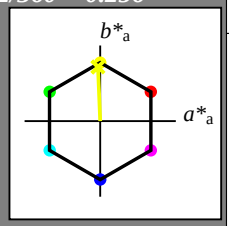
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

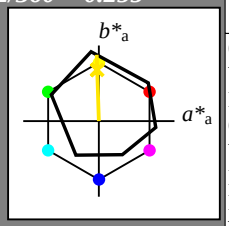
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.4	43.84
*LAB*TCHa*	75.0	43.86	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.67
*LAB*LABa*	52.1	−1.39	43.83
*LAB*TCHa*	25.01	43.86	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.81
*LAB*LABa*	86.19	−2.81	87.67
*LAB*TCHa*	50.0	87.72	91.84

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

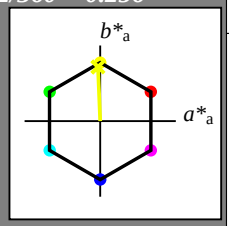
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

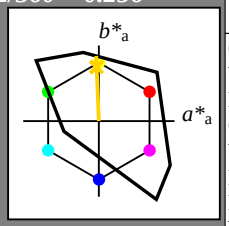
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

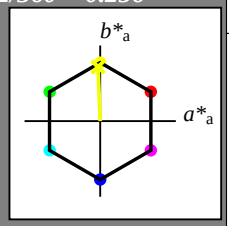
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

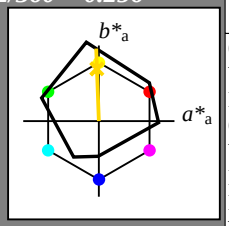
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.156	1.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.156	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

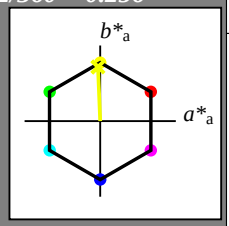
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

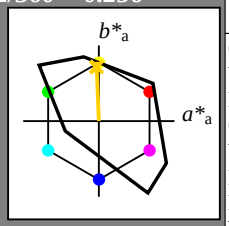
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

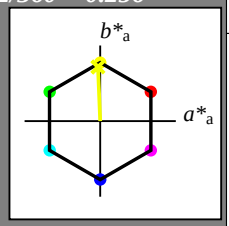
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

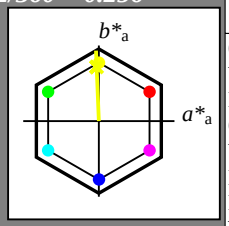
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 62 93 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.78	−1.86	46.61
*LAB*LABa*	78.78	−1.86	46.61
*LAB*TCHa*	75.0	46.65	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.16	−3.75	93.21
*LAB*LABa*	62.16	−3.75	93.21
*LAB*TCHa*	50.0	93.29	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.09	−1.87	46.6
*LAB*LABa*	31.09	−1.87	46.6
*LAB*TCHa*	25.01	46.64	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

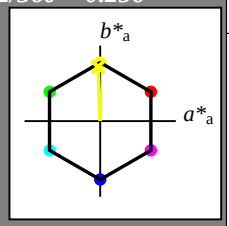
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

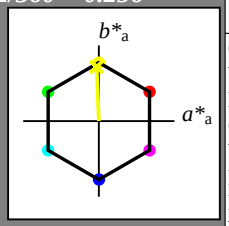
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

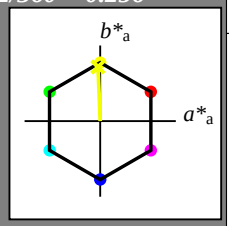
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

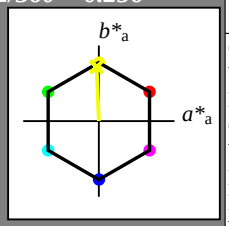
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

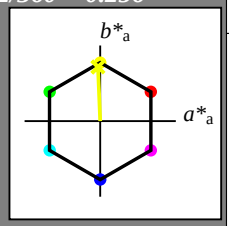
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

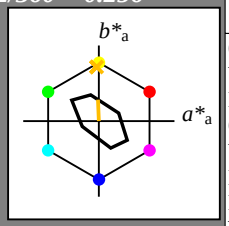
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.87	0.5	(1.0)
*cmyn3**	0.0	0.13	0.5	(0.0)
*olvi4**	1.0	0.87	0.5	1.0
*cmyn4**	0.0	0.13	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0	(1.0)
*cmyn3**	0.5	0.63	1.0	(0.0)
*olvi4**	1.0	0.87	0.5	0.5
*cmyn4**	0.0	0.13	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0	(1.0)
*cmyn3**	0.0	0.26	1.0	(0.0)
*olvi4**	1.0	0.74	0.0	1.0
*cmyn4**	0.0	0.26	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

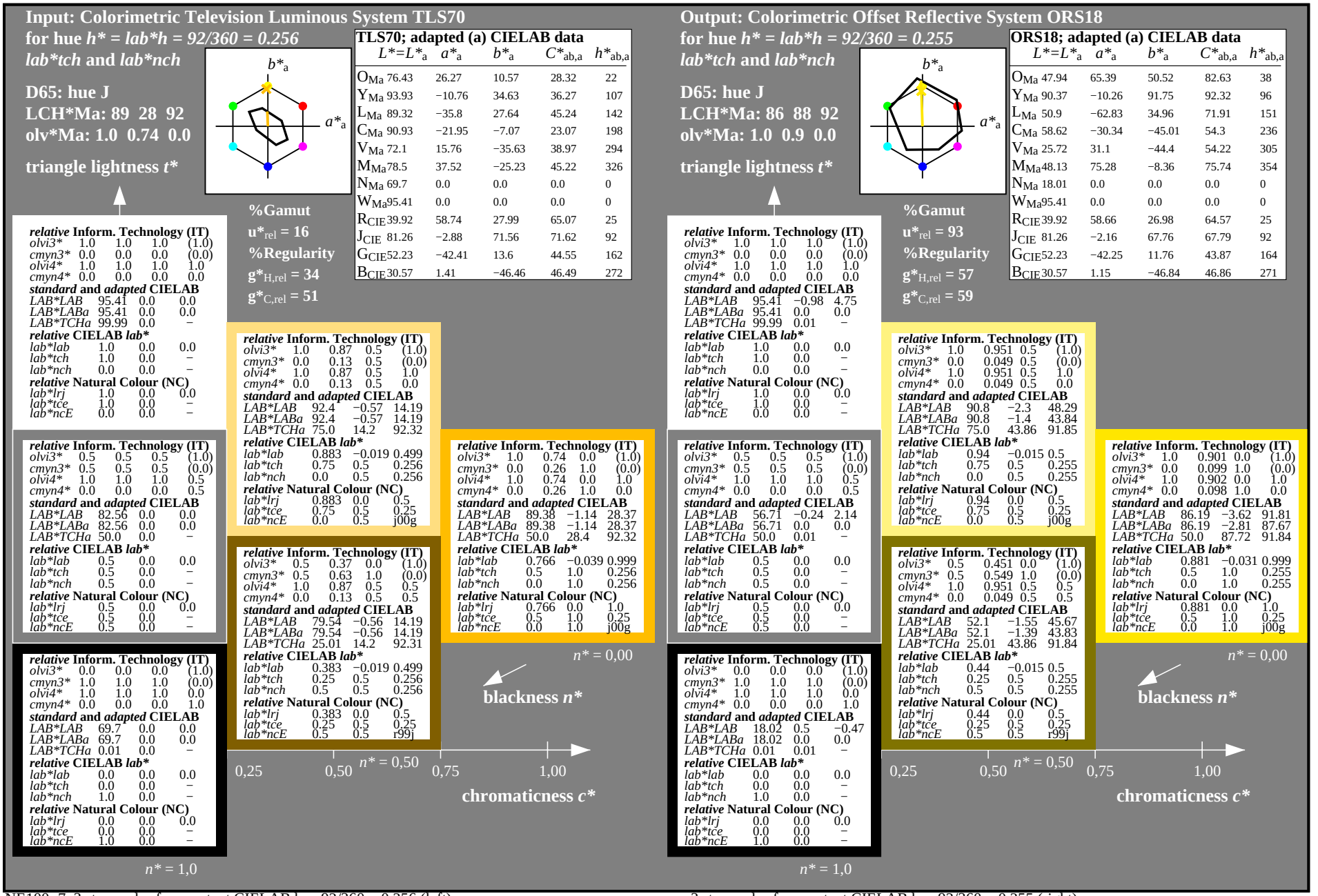
*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)



NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

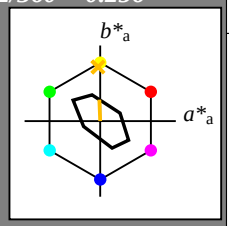
3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.87	0.5	(1.0)
*cmyn3**	0.0	0.13	0.5	(0.0)
*olvi4**	1.0	0.87	0.5	1.0
*cmyn4**	0.0	0.13	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0	(1.0)
*cmyn3**	0.5	0.63	1.0	(0.0)
*olvi4**	1.0	0.87	0.5	0.5
*cmyn4**	0.0	0.13	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0	(1.0)
*cmyn3**	0.0	0.26	1.0	(0.0)
*olvi4**	1.0	0.74	0.0	1.0
*cmyn4**	0.0	0.26	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

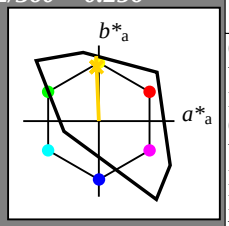
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 86 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.912	0.5	(1.0)
*cmyn3**	0.0	0.088	0.5	(0.0)
*olvi4**	1.0	0.912	0.5	1.0
*cmyn4**	0.0	0.088	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.31	−1.74	43.06
*LAB*LABa*	90.31	−1.74	43.06
*LAB*TCHa*	75.0	43.09	92.32

relative* CIELAB *lab*

*lab*lab*	0.947	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.947	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.412	0.0	(1.0)
*cmyn3**	0.5	0.588	1.0	(0.0)
*olvi4**	1.0	0.912	0.5	0.5
*cmyn4**	0.0	0.088	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.62	−1.73	43.05
*LAB*LABa*	42.62	−1.73	43.05
*LAB*TCHa*	25.01	43.09	92.31

relative* CIELAB *lab*

*lab*lab*	0.447	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.447	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.824	0.0	(1.0)
*cmyn3**	0.0	0.176	1.0	(0.0)
*olvi4**	1.0	0.824	0.0	1.0
*cmyn4**	0.0	0.176	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.22	−3.47	86.11
*LAB*LABa*	85.22	−3.47	86.11
*LAB*TCHa*	50.0	86.18	92.32

relative* CIELAB *lab*

*lab*lab*	0.893	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.893	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

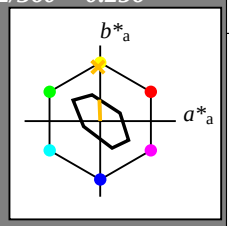
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.87	0.5	(1.0)
*cmyn3**	0.0	0.13	0.5	(0.0)
*olvi4**	1.0	0.87	0.5	1.0
*cmyn4**	0.0	0.13	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0	(1.0)
*cmyn3**	0.5	0.63	1.0	(0.0)
*olvi4**	1.0	0.87	0.5	0.5
*cmyn4**	0.0	0.13	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0	(1.0)
*cmyn3**	0.0	0.26	1.0	(0.0)
*olvi4**	1.0	0.74	0.0	1.0
*cmyn4**	0.0	0.26	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

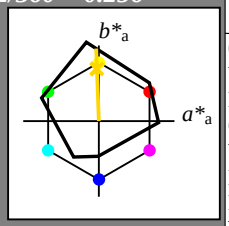
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 83 96 92
olv*Ma: 1.0 0.84 0.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.922	0.5	(1.0)
*cmyn3**	0.0	0.078	0.5	(0.0)
*olvi4**	1.0	0.922	0.5	1.0
*cmyn4**	0.0	0.078	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.56	−1.98	50.51
*LAB*LABa*	89.56	−1.75	47.96
*LAB*TCHa*	75.0	48.0	92.1

relative* CIELAB *lab*

*lab*lab*	0.915	−0.017	0.5
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.915	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.422	0.0	(1.0)
*cmyn3**	0.5	0.578	1.0	(0.0)
*olvi4**	1.0	0.922	0.5	0.5
*cmyn4**	0.0	0.078	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.68	−2.62	50.24
*LAB*LABa*	49.68	−1.74	47.96
*LAB*TCHa*	25.01	47.99	92.09

relative* CIELAB *lab*

*lab*lab*	0.415	−0.017	0.5
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.415	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.844	0.0	(1.0)
*cmyn3**	0.0	0.156	1.0	(0.0)
*olvi4**	1.0	0.844	0.0	1.0
*cmyn4**	0.0	0.156	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.8	−3.84	98.43
*LAB*LABa*	82.8	−3.5	95.92
*LAB*TCHa*	50.0	95.99	92.1

relative* CIELAB *lab*

*lab*lab*	0.831	−0.036	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.831	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

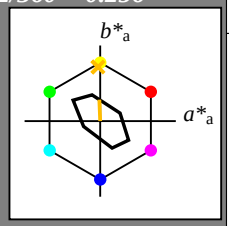
NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.87	0.5	(1.0)
*cmyn3**	0.0	0.13	0.5	(0.0)
*olvi4**	1.0	0.87	0.5	1.0
*cmyn4**	0.0	0.13	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0	(1.0)
*cmyn3**	0.5	0.63	1.0	(0.0)
*olvi4**	1.0	0.87	0.5	0.5
*cmyn4**	0.0	0.13	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0	(1.0)
*cmyn3**	0.0	0.26	1.0	(0.0)
*olvi4**	1.0	0.74	0.0	1.0
*cmyn4**	0.0	0.26	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

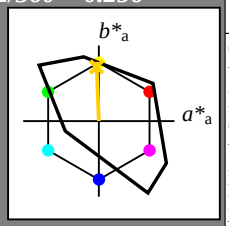
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 85 79 92
olv*Ma: 1.0 0.82 0.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.908	0.5	(1.0)
*cmyn3**	0.0	0.092	0.5	(0.0)
*olvi4**	1.0	0.908	0.5	1.0
*cmyn4**	0.0	0.092	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.39	−1.58	39.25
*LAB*LABa*	90.39	−1.58	39.25
*LAB*TCHa*	75.0	39.29	92.32

relative* CIELAB *lab*

*lab*lab*	0.935	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.408	0.0	(1.0)
*cmyn3**	0.5	0.592	1.0	(0.0)
*olvi4**	1.0	0.908	0.5	0.5
*cmyn4**	0.0	0.092	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.7	−1.57	39.25
*LAB*LABa*	51.7	−1.57	39.25
*LAB*TCHa*	25.01	39.28	92.31

relative* CIELAB *lab*

*lab*lab*	0.435	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.435	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.816	0.0	(1.0)
*cmyn3**	0.0	0.184	1.0	(0.0)
*olvi4**	1.0	0.816	0.0	1.0
*cmyn4**	0.0	0.184	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.38	−3.17	78.5
*LAB*LABa*	85.38	−3.17	78.5
*LAB*TCHa*	50.0	78.57	92.32

relative* CIELAB *lab*

*lab*lab*	0.87	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.87	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

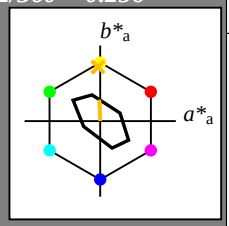
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.87	0.5	(1.0)
*cmyn3**	0.0	0.13	0.5	(0.0)
*olvi4**	1.0	0.87	0.5	1.0
*cmyn4**	0.0	0.13	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0	(1.0)
*cmyn3**	0.5	0.63	1.0	(0.0)
*olvi4**	1.0	0.87	0.5	0.5
*cmyn4**	0.0	0.13	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0	(1.0)
*cmyn3**	0.0	0.26	1.0	(0.0)
*olvi4**	1.0	0.74	0.0	1.0
*cmyn4**	0.0	0.26	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

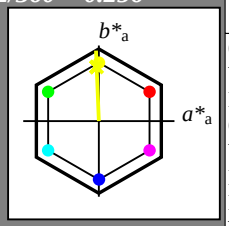
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 62 93 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	78.78	−1.86	46.61
*LAB*LABa*	78.78	−1.86	46.61
*LAB*TCHa*	75.0	46.65	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.09	−1.87	46.6
*LAB*LABa*	31.09	−1.87	46.6
*LAB*TCHa*	25.01	46.64	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	62.16	−3.75	93.21
*LAB*LABa*	62.16	−3.75	93.21
*LAB*TCHa*	50.0	93.29	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

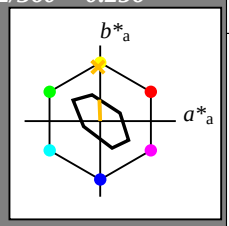
chromaticness *c**

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.87	0.5	(1.0)
*cmyn3**	0.0	0.13	0.5	(0.0)
*olvi4**	1.0	0.87	0.5	1.0
*cmyn4**	0.0	0.13	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0	(1.0)
*cmyn3**	0.5	0.63	1.0	(0.0)
*olvi4**	1.0	0.87	0.5	0.5
*cmyn4**	0.0	0.13	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0	(1.0)
*cmyn3**	0.0	0.26	1.0	(0.0)
*olvi4**	1.0	0.74	0.0	1.0
*cmyn4**	0.0	0.26	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

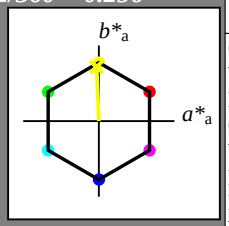
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 68 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	81.92	−1.51	37.81
*LAB*LABa*	81.92	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.826	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.826	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	43.22	−1.52	37.81
*LAB*LABa*	43.22	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.326	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.326	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.43	−3.04	75.62
*LAB*LABa*	68.43	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.651	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.651	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

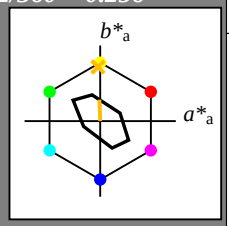
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.87	0.5	(1.0)
*cmyn3**	0.0	0.13	0.5	(0.0)
*olvi4**	1.0	0.87	0.5	1.0
*cmyn4**	0.0	0.13	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0	(1.0)
*cmyn3**	0.5	0.63	1.0	(0.0)
*olvi4**	1.0	0.87	0.5	0.5
*cmyn4**	0.0	0.13	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0	(1.0)
*cmyn3**	0.0	0.26	1.0	(0.0)
*olvi4**	1.0	0.74	0.0	1.0
*cmyn4**	0.0	0.26	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

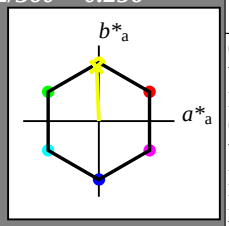
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.95 1.0 0.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.5	(1.0)
*cmyn3**	0.023	0.0	0.5	(0.0)
*olvi4**	0.977	1.0	0.5	1.0
*cmyn4**	0.023	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−1.51	37.81
*LAB*LABa*	76.06	−1.51	37.81
*LAB*TCHa*	75.0	37.84	92.3

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.477	0.5	0.0	(1.0)
*cmyn3**	0.523	0.5	1.0	(0.0)
*olvi4**	0.977	1.0	0.5	0.5
*cmyn4**	0.023	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.52	37.81
*LAB*LABa*	37.36	−1.52	37.81
*LAB*TCHa*	25.01	37.84	92.31

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.954	1.0	0.0	(1.0)
*cmyn3**	0.046	0.0	1.0	(0.0)
*olvi4**	0.955	1.0	0.0	1.0
*cmyn4**	0.045	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−3.04	75.62
*LAB*LABa*	56.71	−3.04	75.62
*LAB*TCHa*	50.0	75.69	92.31

relative* CIELAB *lab*

*lab*lab*	0.5	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

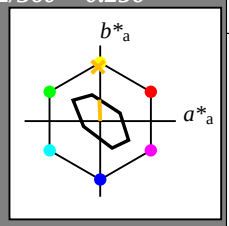
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.87	0.5	(1.0)
*cmyn3**	0.0	0.13	0.5	(0.0)
*olvi4**	1.0	0.87	0.5	1.0
*cmyn4**	0.0	0.13	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0	(1.0)
*cmyn3**	0.5	0.63	1.0	(0.0)
*olvi4**	1.0	0.87	0.5	0.5
*cmyn4**	0.0	0.13	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0	(1.0)
*cmyn3**	0.0	0.26	1.0	(0.0)
*olvi4**	1.0	0.74	0.0	1.0
*cmyn4**	0.0	0.26	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

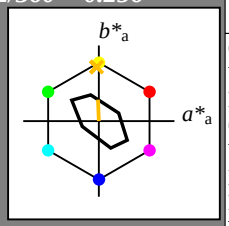
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 28 92
olv*Ma: 1.0 0.74 0.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.87	0.5	(1.0)
*cmyn3**	0.0	0.13	0.5	(0.0)
*olvi4**	1.0	0.87	0.5	1.0
*cmyn4**	0.0	0.13	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.4	−0.57	14.19
*LAB*LABa*	92.4	−0.57	14.19
*LAB*TCHa*	75.0	14.2	92.32

relative* CIELAB *lab*

*lab*lab*	0.883	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.883	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.37	0.0	(1.0)
*cmyn3**	0.5	0.63	1.0	(0.0)
*olvi4**	1.0	0.87	0.5	0.5
*cmyn4**	0.0	0.13	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.54	−0.56	14.19
*LAB*LABa*	79.54	−0.56	14.19
*LAB*TCHa*	25.01	14.2	92.31

relative* CIELAB *lab*

*lab*lab*	0.383	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.383	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.74	0.0	(1.0)
*cmyn3**	0.0	0.26	1.0	(0.0)
*olvi4**	1.0	0.74	0.0	1.0
*cmyn4**	0.0	0.26	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	89.38	−1.14	28.37
*LAB*LABa*	89.38	−1.14	28.37
*LAB*TCHa*	50.0	28.4	92.32

relative* CIELAB *lab*

*lab*lab*	0.766	−0.039	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.766	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

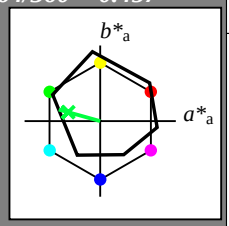
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

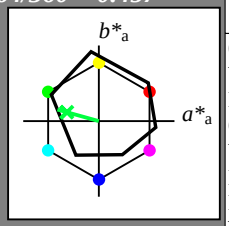
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

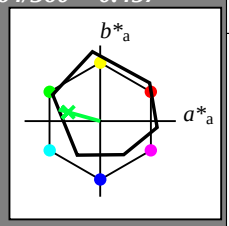
3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 164/360 = 0.457
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

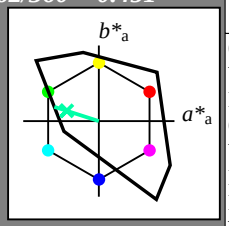
NE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

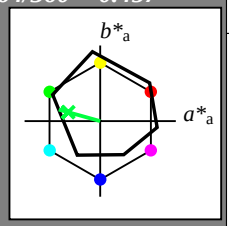
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h* = lab*h = 164/360 = 0.457*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

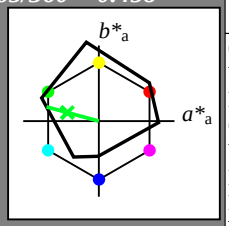
NE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

Output: Colorimetric Printer Reflective System DRSXX

for hue *h* = lab*h = 165/360 = 0.458*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

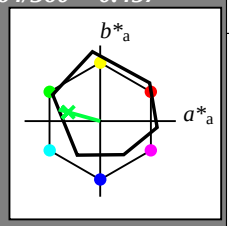
chromaticness c^*

3 step scales for constant CIELAB hue 165/360 = 0.458 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

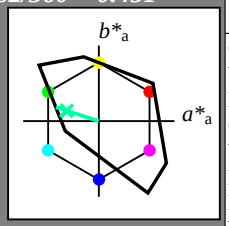
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

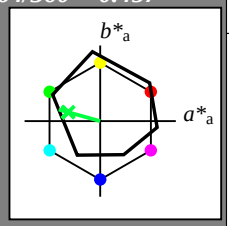
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

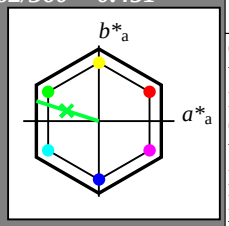
*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

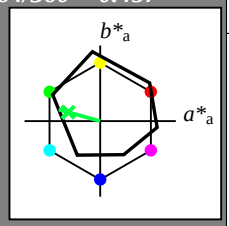
NE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

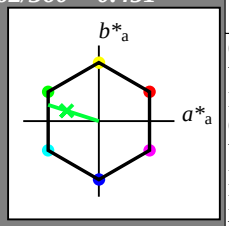
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

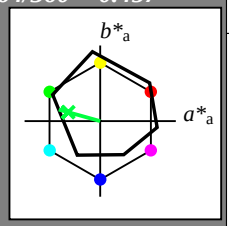
NE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

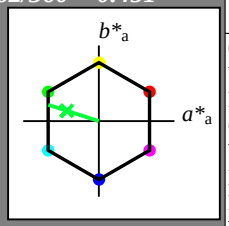
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

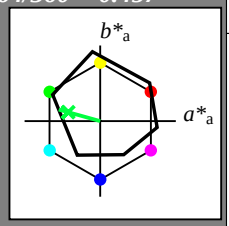
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

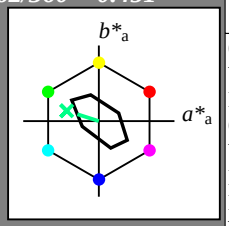
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.267	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

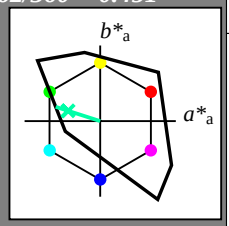
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***n** = 0,00**

blackness *n**

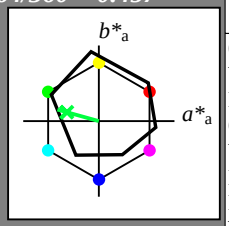
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

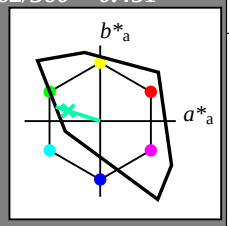
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

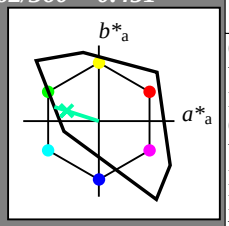
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

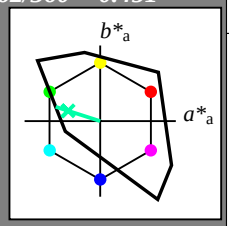
chromaticness *c**

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***n** = 0,00**

blackness *n**

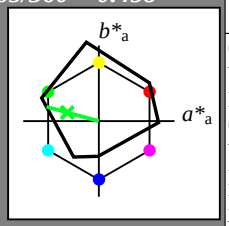
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 165/360 = 0.458**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.076	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	0.076	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

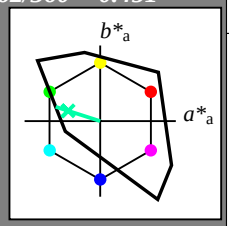
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 165/360 = 0.458 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

$n^* = 0{,}00$

blackness n^*

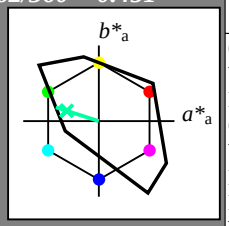
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

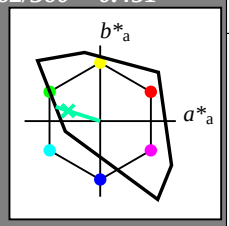
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

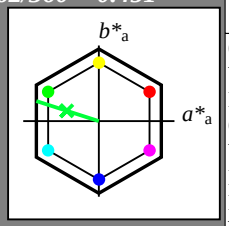
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

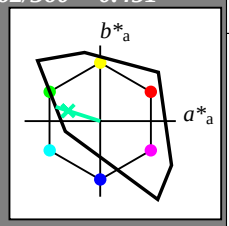
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

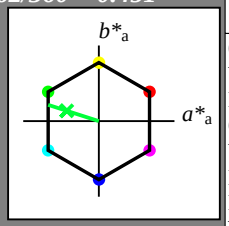
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

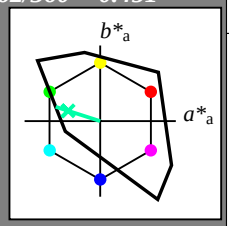
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h* = lab*h = 162/360 = 0.451*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

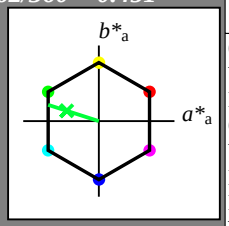
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18

for hue *h* = lab*h = 162/360 = 0.451*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.611	(1.0)
*cmyn3**	0.0	0.0	0.389	(0.0)
*olvi4**	0.0	1.0	0.611	1.0
*cmyn4**	0.0	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

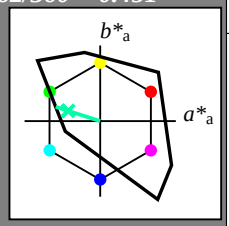
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***n** = 0,00**

blackness *n**

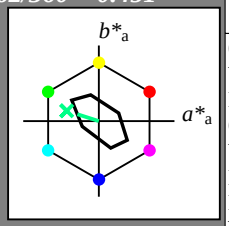
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.267	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***n** = 0,00**

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

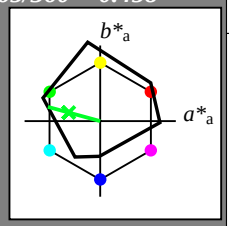
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 165/360 = 0.458**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

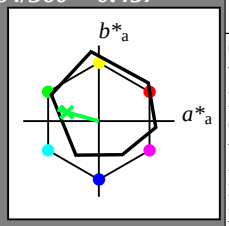
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

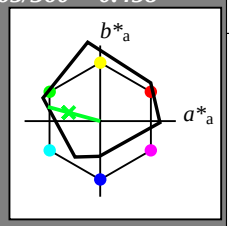
NE100−7, 3 step scales for constant CIELAB hue 165/360 = 0.458 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 165/360 = 0.458**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

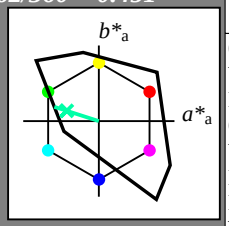
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

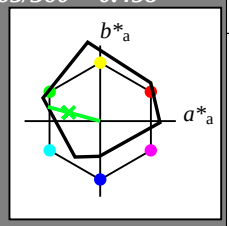
NE100−7, 3 step scales for constant CIELAB hue 165/360 = 0.458 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 165/360 = 0.458**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

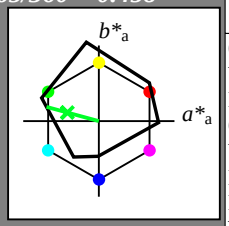
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 165/360 = 0.458 (left)

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 165/360 = 0.458**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

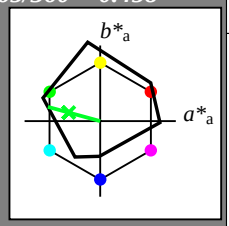
3 step scales for constant CIELAB hue 165/360 = 0.458 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h* = lab*h = 165/360 = 0.458*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

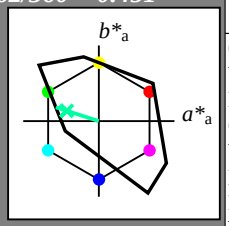
*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

Output: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 162/360 = 0.451*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

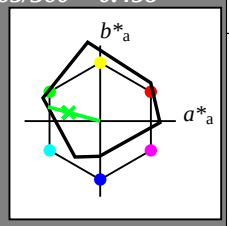
NE100−7, 3 step scales for constant CIELAB hue 165/360 = 0.458 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 165/360 = 0.458**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

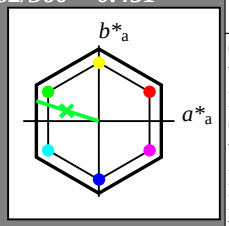
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

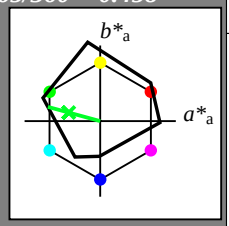
NE100−7, 3 step scales for constant CIELAB hue 165/360 = 0.458 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 165/360 = 0.458**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***n** = 0,00**

blackness *n**

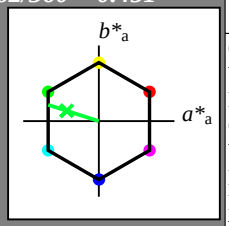
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

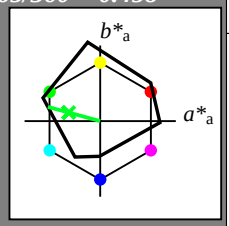
NE100−7, 3 step scales for constant CIELAB hue 165/360 = 0.458 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 165/360 = 0.458**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

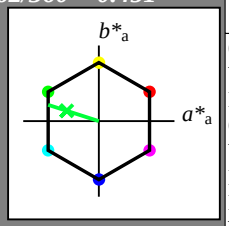
chromaticness *c**

*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 165/360 = 0.458 (left)

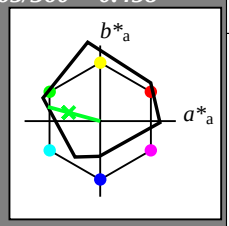
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h* = lab*h = 165/360 = 0.458*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

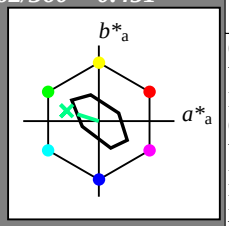
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h* = lab*h = 162/360 = 0.451*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.267	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

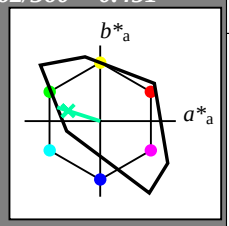
NE100−7, 3 step scales for constant CIELAB hue 165/360 = 0.458 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

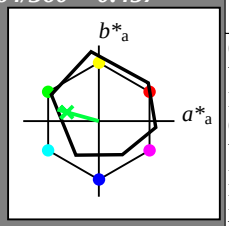
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

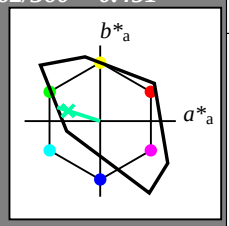
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

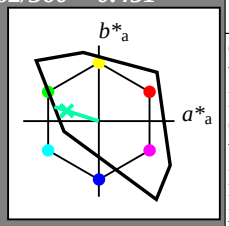
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

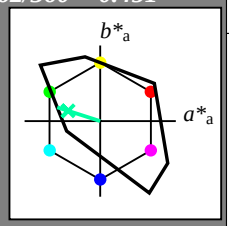
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 162/360 = 0.451*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

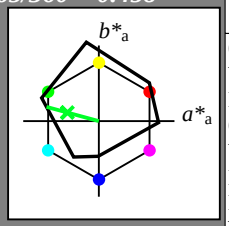
chromaticness c^*

Output: Colorimetric Printer Reflective System DRSXX

for hue *h* = lab*h = 165/360 = 0.458*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

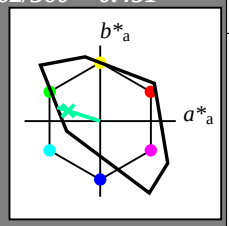
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 165/360 = 0.458 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

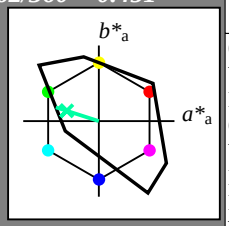
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

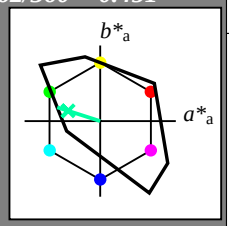
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h* = lab*h = 162/360 = 0.451*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

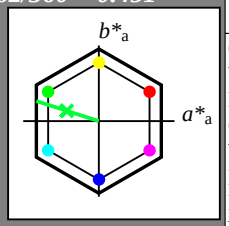
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h* = lab*h = 162/360 = 0.451*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

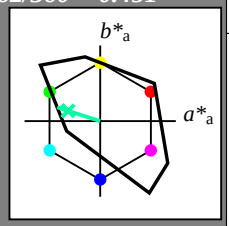
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

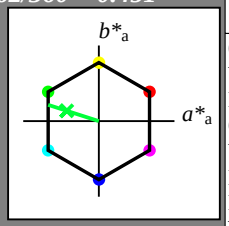
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

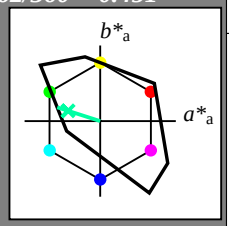
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***n** = 0,00**

blackness *n**

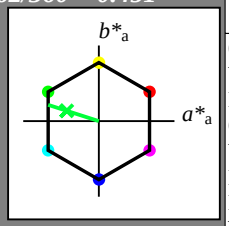
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

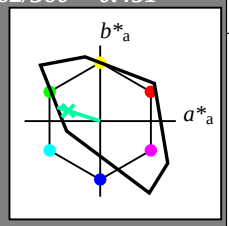
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

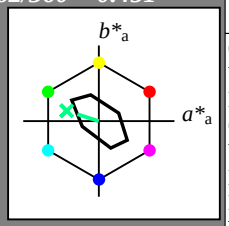
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.267	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

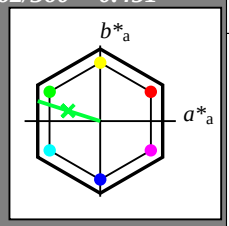
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

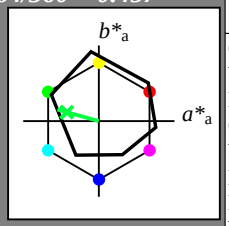
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

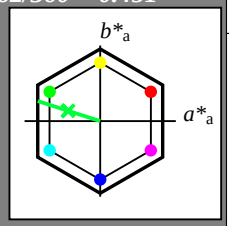
3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

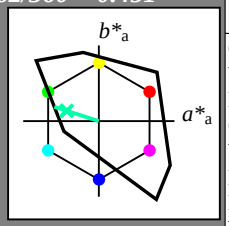
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

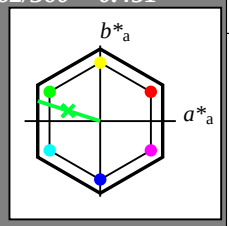
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

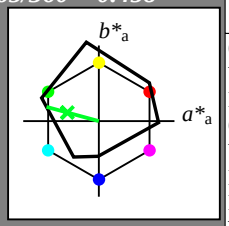
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 165/360 = 0.458**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.076	(1.0)
*cmyn3**	0.0	0.0	0.924	(0.0)
*olvi4**	0.0	1.0	0.076	1.0
*cmyn4**	0.0	0.0	0.924	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

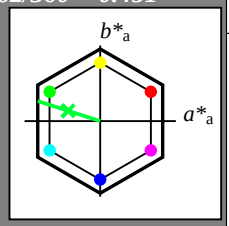
3 step scales for constant CIELAB hue 165/360 = 0.458 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

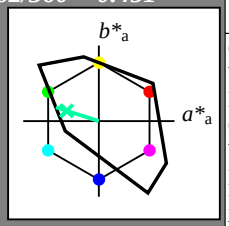
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

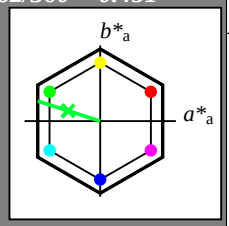
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

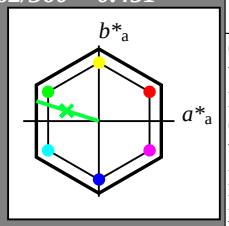
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

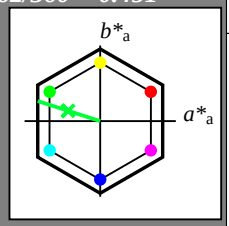
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

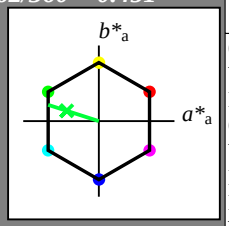
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

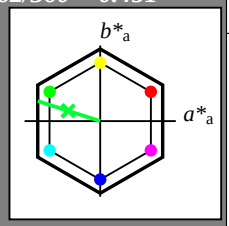
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

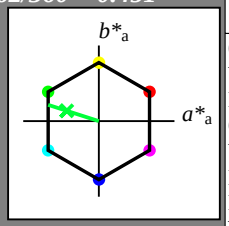
*n** = 1,0

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

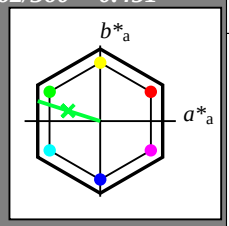
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

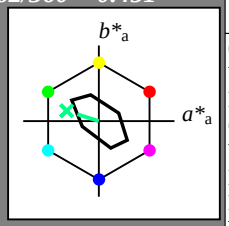
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.267	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

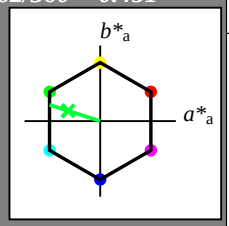
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

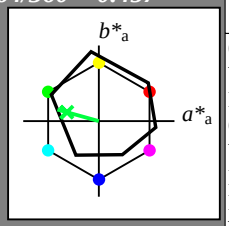
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

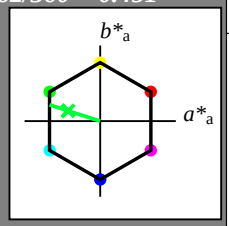
3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

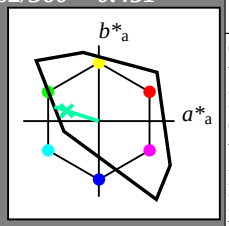
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.326	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.326	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

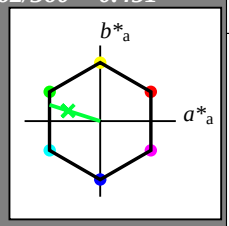
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

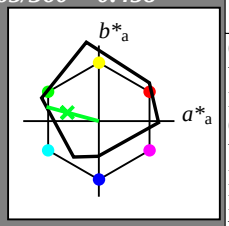
n^* = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 165/360 = 0.458**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

n^* = 1,0

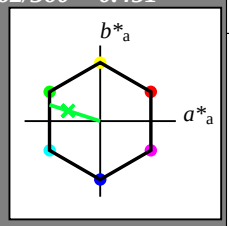
3 step scales for constant CIELAB hue 165/360 = 0.458 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

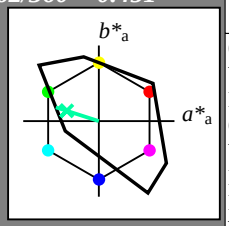
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

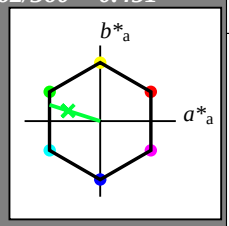
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

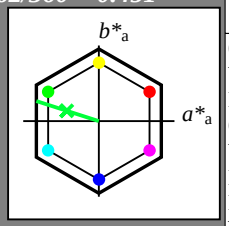
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

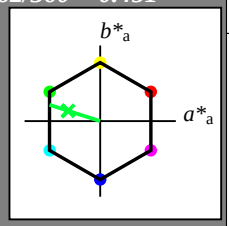
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h* = lab*h = 162/360 = 0.451*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

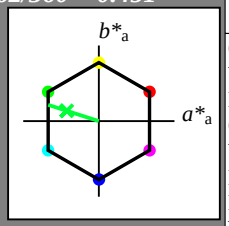
*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18

for hue *h* = lab*h = 162/360 = 0.451*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

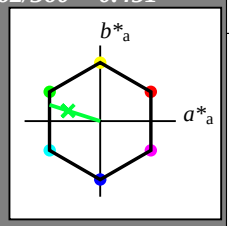
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

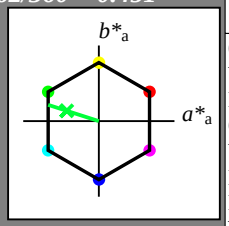
chromaticness c^*

n^* = 1,0

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

n^* = 1,0

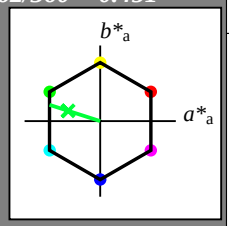
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

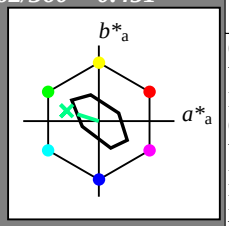
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.267	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

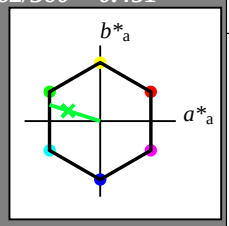
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

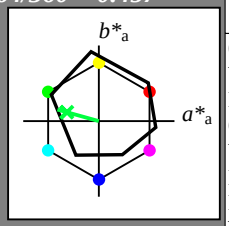
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

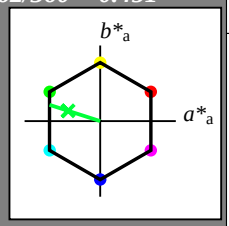
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

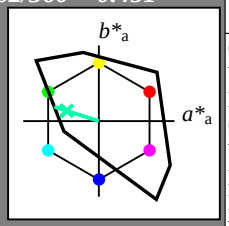
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

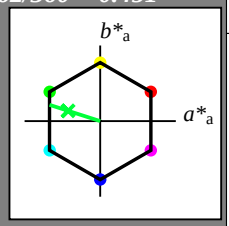
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

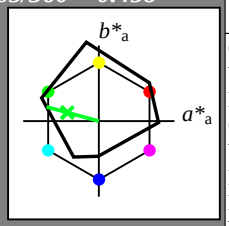
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 165/360 = 0.458**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

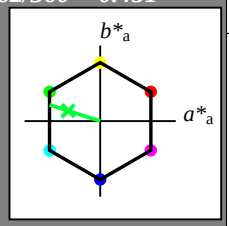
3 step scales for constant CIELAB hue 165/360 = 0.458 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

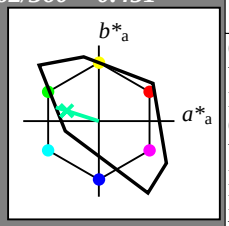
$n^* = 1{,}0$

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

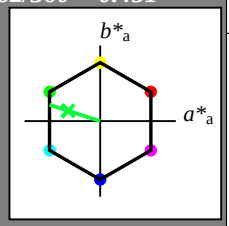
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

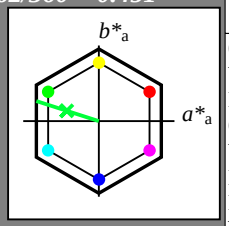
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

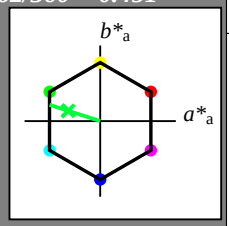
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

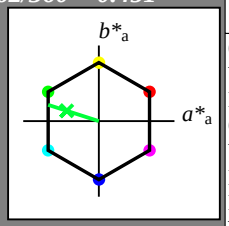
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

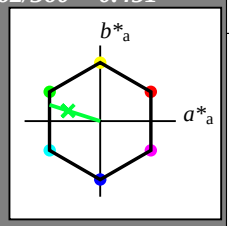
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

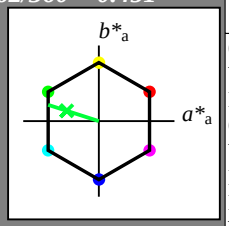
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

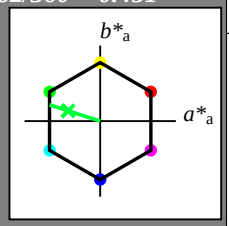
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

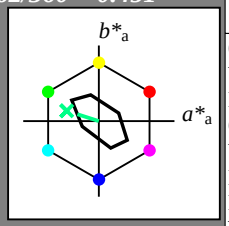
$n^* = 1{,}0$

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.767	(1.0)
*cmyn3**	0.0	0.0	0.233	(0.0)
*olvi4**	0.0	1.0	0.767	1.0
*cmyn4**	0.0	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.267	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

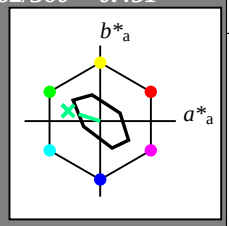
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.267	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

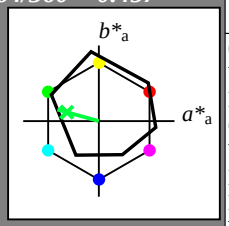
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.98	10.94
*LAB*LABa*	74.1	−27.4	7.62
*LAB*TCHa*	75.0	28.45	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.98	17.14
*LAB*LABa*	52.8	−54.81	15.26
*LAB*TCHa*	50.0	56.91	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.24	8.34
*LAB*LABa*	35.41	−27.4	7.63
*LAB*TCHa*	25.01	28.46	164.44

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

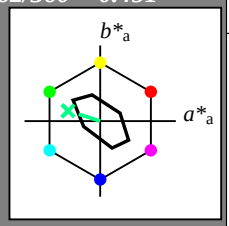
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.533	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

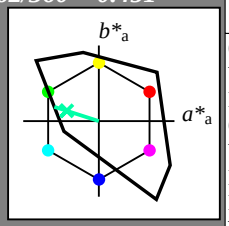
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 86 62 162
olv*Ma: 0.0 1.0 0.65

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.826	(1.0)
*cmyn3**	0.5	0.0	0.174	(0.0)
*olvi4**	0.5	1.0	0.827	1.0
*cmyn4**	0.5	0.0	0.173	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.57	−29.42	9.43
*LAB*LABa*	90.57	−29.42	9.43
*LAB*TCHa*	75.0	30.9	162.23

relative* CIELAB *lab*

*lab*lab*	0.949	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.949	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.326	(1.0)
*cmyn3**	1.0	0.5	0.674	(0.0)
*olvi4**	0.5	1.0	0.826	0.5
*cmyn4**	0.5	0.0	0.174	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	42.88	−29.42	9.44
*LAB*LABa*	42.88	−29.42	9.44
*LAB*TCHa*	25.01	30.91	162.22

relative* CIELAB *lab*

*lab*lab*	0.449	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.449	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.653	(1.0)
*cmyn3**	1.0	0.0	0.347	(0.0)
*olvi4**	0.0	1.0	0.653	1.0
*cmyn4**	1.0	0.0	0.347	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	85.74	−58.84	18.87
*LAB*LABa*	85.74	−58.84	18.87
*LAB*TCHa*	50.0	61.8	162.23

relative* CIELAB *lab*

*lab*lab*	0.899	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.899	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

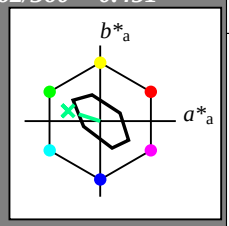
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.267	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

$n^* = 0{,}00$

blackness *n**

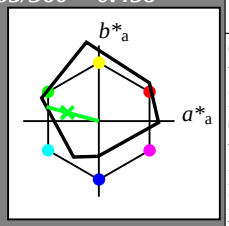
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 165/360 = 0.458**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 49 72 165
olv*Ma: 0.0 1.0 0.15

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.576	(1.0)
*cmyn3**	0.0	0.0	0.424	(0.0)
*olvi4**	0.0	1.0	0.576	1.0
*cmyn4**	0.0	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.576	(1.0)
*cmyn3**	0.5	0.0	0.424	(0.0)
*olvi4**	0.5	1.0	0.576	1.0
*cmyn4**	0.5	0.0	0.424	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.65	−35.1	11.84
*LAB*LABa*	72.65	−34.6	9.4
*LAB*TCHa*	75.0	35.86	164.8

relative* CIELAB *lab*

*lab*lab*	0.703	−0.481	0.131
*lab*tch*	0.75	0.5	0.458
*lab*nch*	0.0	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.703	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.076	(1.0)
*cmyn3**	1.0	0.5	0.924	(0.0)
*olvi4**	0.5	1.0	0.576	0.5
*cmyn4**	0.5	0.0	0.424	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.79	−35.75	11.58
*LAB*LABa*	32.79	−34.6	9.41
*LAB*TCHa*	25.01	35.87	164.79

relative* CIELAB *lab*

*lab*lab*	0.203	−0.481	0.131
*lab*tch*	0.25	0.5	0.458
*lab*nch*	0.5	0.5	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.203	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.152	(1.0)
*cmyn3**	1.0	0.0	0.848	(0.0)
*olvi4**	0.0	1.0	0.152	1.0
*cmyn4**	1.0	0.0	0.848	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.0	−70.1	21.09
*LAB*LABa*	49.0	−69.2	18.81
*LAB*TCHa*	50.0	71.72	164.8

relative* CIELAB *lab*

*lab*lab*	0.407	−0.964	0.262
*lab*tch*	0.5	1.0	0.458
*lab*nch*	0.0	1.0	0.458

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

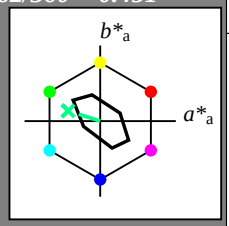
3 step scales for constant CIELAB hue 165/360 = 0.458 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.533	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

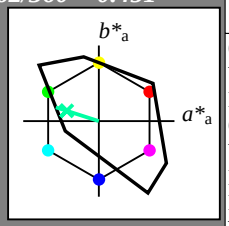
*n** = 1,0

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 86 60 162
olv*Ma: 0.0 1.0 0.64

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.82	(1.0)
*cmyn3**	0.5	0.0	0.18	(0.0)
*olvi4**	0.5	1.0	0.82	1.0
*cmyn4**	0.5	0.0	0.18	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.7	−28.42	9.11
*LAB*LABa*	90.7	−28.42	9.11
*LAB*TCHa*	75.0	29.85	162.23

relative* CIELAB *lab*

*lab*lab*	0.939	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.32	(1.0)
*cmyn3**	1.0	0.5	0.68	(0.0)
*olvi4**	0.5	1.0	0.82	0.5
*cmyn4**	0.5	0.0	0.18	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.01	−28.42	9.12
*LAB*LABa*	52.01	−28.42	9.12
*LAB*TCHa*	25.01	29.86	162.22

relative* CIELAB *lab*

*lab*lab*	0.439	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.439	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.64	(1.0)
*cmyn3**	1.0	0.0	0.36	(0.0)
*olvi4**	0.0	1.0	0.64	1.0
*cmyn4**	1.0	0.0	0.36	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.0	−56.85	18.23
*LAB*LABa*	86.0	−56.85	18.23
*LAB*TCHa*	50.0	59.71	162.23

relative* CIELAB *lab*

*lab*lab*	0.878	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.878	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

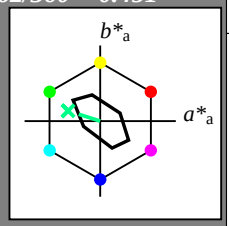
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.267	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

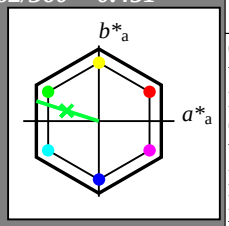
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 39 87 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.611	(1.0)
*cmyn3**	0.0	0.0	0.389	(0.0)
*olvi4**	0.0	1.0	0.611	1.0
*cmyn4**	0.0	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.14	−41.29	13.24
*LAB*LABa*	67.14	−41.29	13.24
*LAB*TCHa*	75.0	43.37	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	19.45	−41.29	13.25
*LAB*LABa*	19.45	−41.29	13.25
*LAB*TCHa*	25.01	43.37	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.88	−82.59	26.49
*LAB*LABa*	38.88	−82.59	26.49
*LAB*TCHa*	50.0	86.75	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

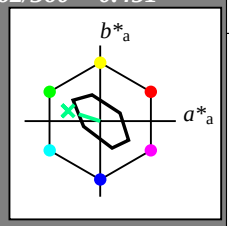
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.267	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

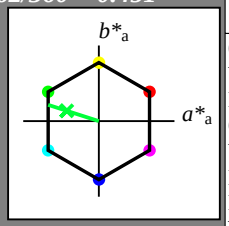
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 50 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.55	−67.01	21.49
*LAB*LABa*	49.55	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.407	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.407	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.48	−33.5	10.74
*LAB*LABa*	72.48	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.704	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.78	−33.5	10.75
*LAB*LABa*	33.78	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.204	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

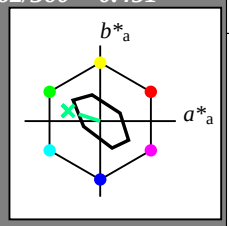
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

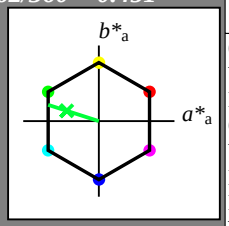
chromaticness c^*

n^* = 1,0

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 70 162
olv*Ma: 0.0 1.0 0.22

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.611	(1.0)
*cmyn3**	0.5	0.0	0.389	(0.0)
*olvi4**	0.5	1.0	0.611	1.0
*cmyn4**	0.5	0.0	0.389	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	−33.5	10.74
*LAB*LABa*	76.06	−33.5	10.74
*LAB*TCHa*	75.0	35.19	162.23

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.111	(1.0)
*cmyn3**	1.0	0.5	0.889	(0.0)
*olvi4**	0.5	1.0	0.611	0.5
*cmyn4**	0.5	0.0	0.389	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−33.5	10.75
*LAB*LABa*	37.36	−33.5	10.75
*LAB*TCHa*	25.01	35.19	162.21

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.222	(1.0)
*cmyn3**	1.0	0.0	0.778	(0.0)
*olvi4**	0.0	1.0	0.222	1.0
*cmyn4**	1.0	0.0	0.778	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−67.01	21.49
*LAB*LABa*	56.71	−67.01	21.49
*LAB*TCHa*	50.0	70.38	162.22

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

n^* = 1,0

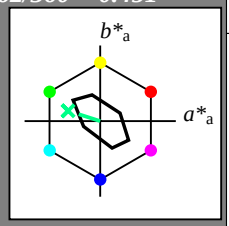
NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.267	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

$n^* = 0{,}00$

blackness *n**

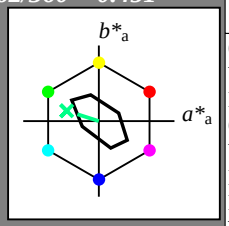
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 90 30 162
olv*Ma: 0.0 1.0 0.53

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.767	(1.0)
*cmyn3**	0.5	0.0	0.233	(0.0)
*olvi4**	0.5	1.0	0.767	1.0
*cmyn4**	0.5	0.0	0.233	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.79	−14.2	4.55
*LAB*LABa*	92.79	−14.2	4.55
*LAB*TCHa*	75.0	14.92	162.23

relative* CIELAB *lab*

*lab*lab*	0.898	−0.475	0.153
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.898	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.267	(1.0)
*cmyn3**	1.0	0.5	0.733	(0.0)
*olvi4**	0.5	1.0	0.767	0.5
*cmyn4**	0.5	0.0	0.233	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.94	−14.2	4.56
*LAB*LABa*	79.94	−14.2	4.56
*LAB*TCHa*	25.01	14.92	162.22

relative* CIELAB *lab*

*lab*lab*	0.398	−0.475	0.153
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.398	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.534	(1.0)
*cmyn3**	1.0	0.0	0.466	(0.0)
*olvi4**	0.0	1.0	0.534	1.0
*cmyn4**	1.0	0.0	0.466	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.18	−28.4	9.11
*LAB*LABa*	90.18	−28.4	9.11
*LAB*TCHa*	50.0	29.84	162.22

relative* CIELAB *lab*

*lab*lab*	0.796	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.796	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

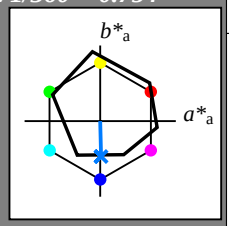
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

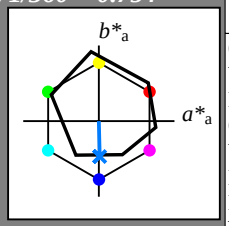
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

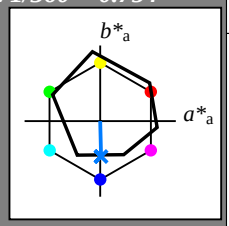
3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

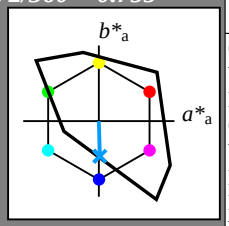
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

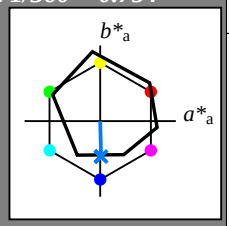
NE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

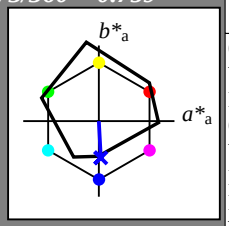
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

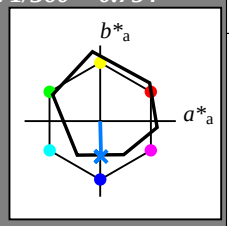
3 step scales for constant CIELAB hue 273/360 = 0.759 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

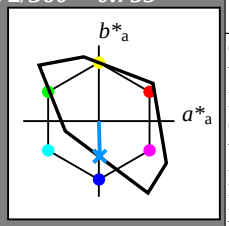
chromaticness *c**

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

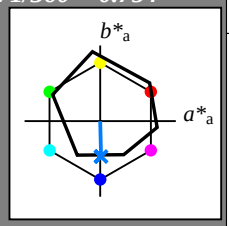
NE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness *n**

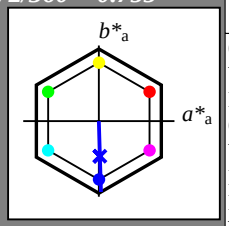
0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

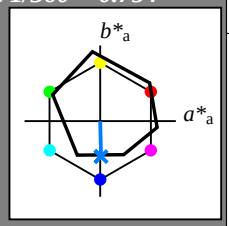
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 271/360 = 0.754
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

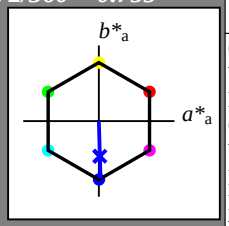
chromaticness c^*

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

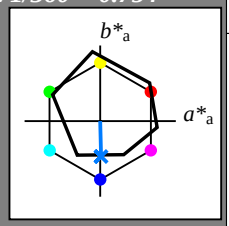
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 271/360 = 0.754
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

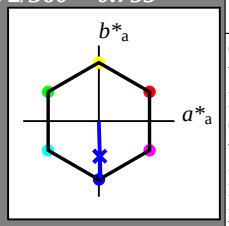
chromaticness c^*

Output: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

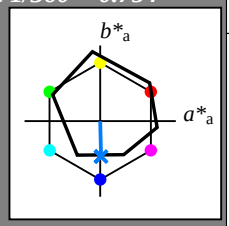
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

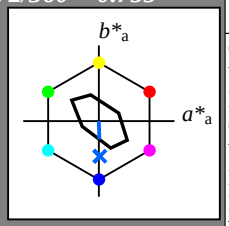
*n** = 1,0

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

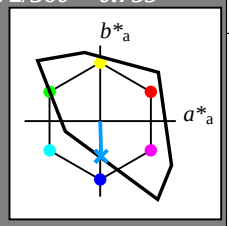
NE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

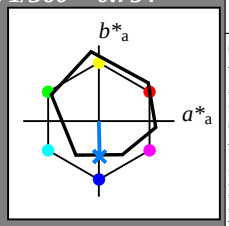
chromaticness *c**

*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

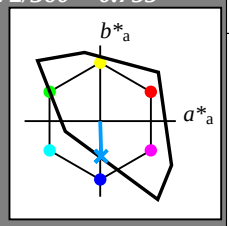
3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

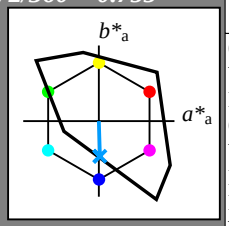
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

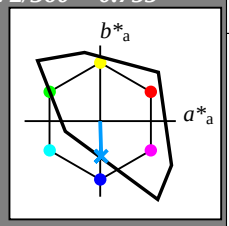
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness n^*

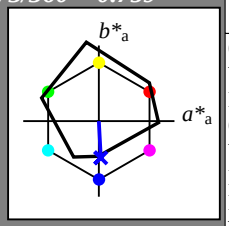
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

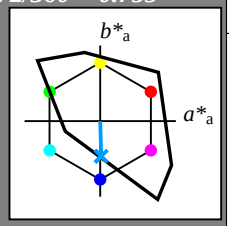
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 273/360 = 0.759 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

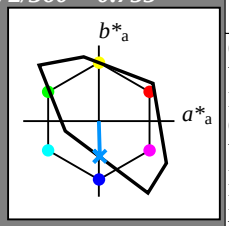
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

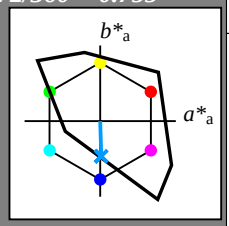
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

***n** = 0,00**

blackness *n**

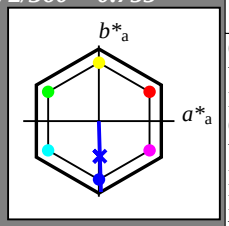
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

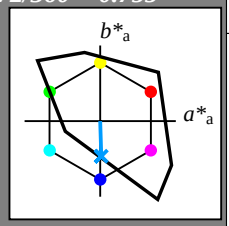
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

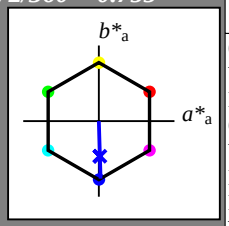
*n** = 1,0

Output: Colorimetric Natural Reflective System NRS18

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

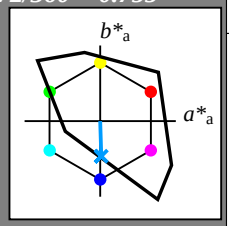
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

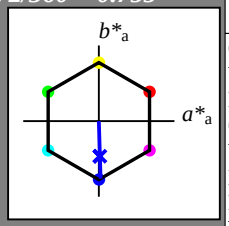
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

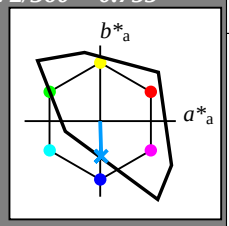
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

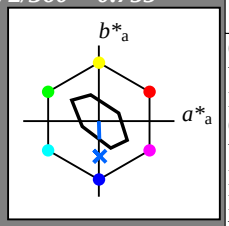
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

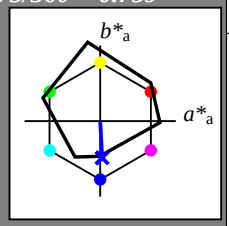
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

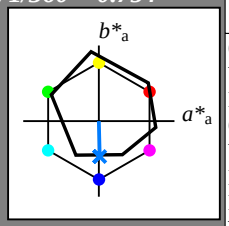
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.759 (left)

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

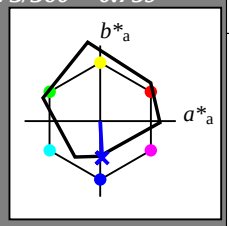
3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 273/360 = 0.759
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

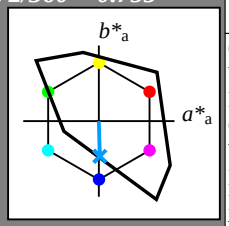
NE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.759 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

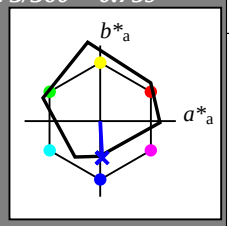
chromaticness c^*

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

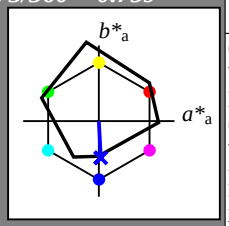
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.759 (left)

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

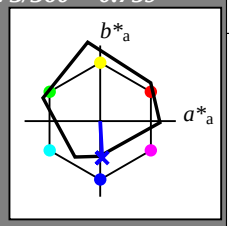
3 step scales for constant CIELAB hue 273/360 = 0.759 (right)

Input: Colorimetric Printer Reflective System DRSXX

for hue *h** = *lab*h* = 273/360 = 0.759
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

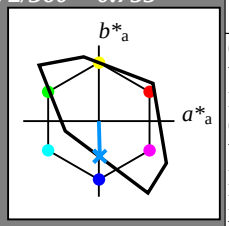
NE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.759 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

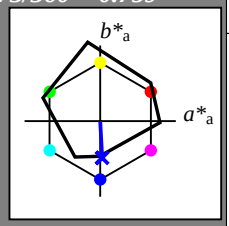
chromaticness c^*

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness n^*

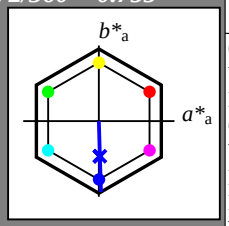
0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

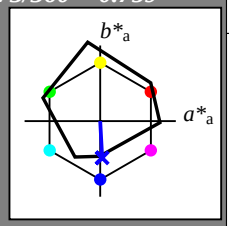
NE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.759 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

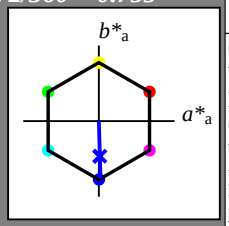
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.759 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

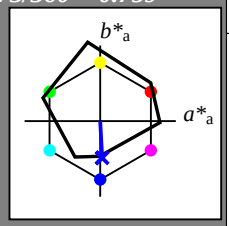
chromaticness *c**

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

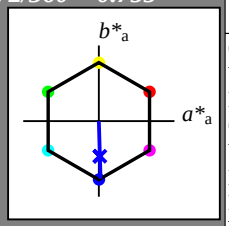
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.759 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

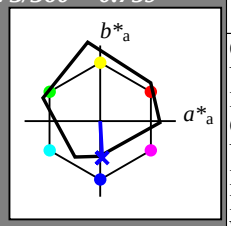
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

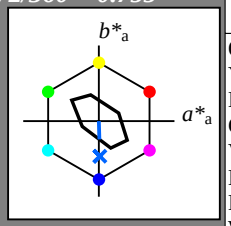
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

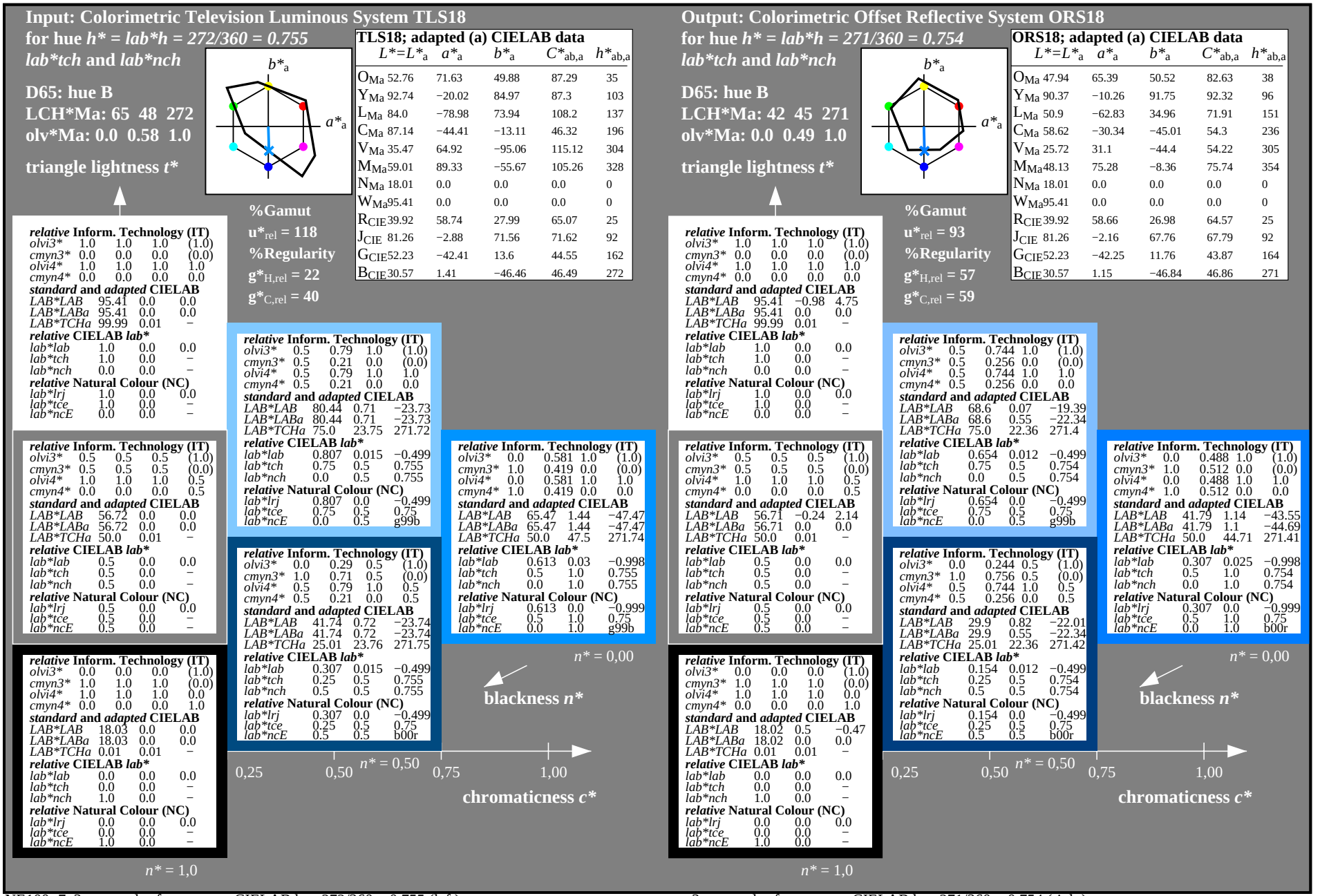
blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.759 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)



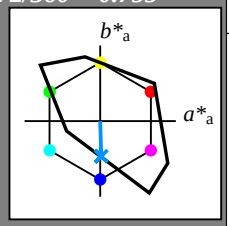
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

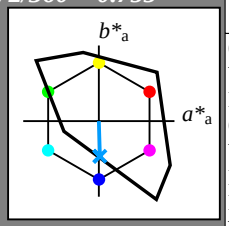
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

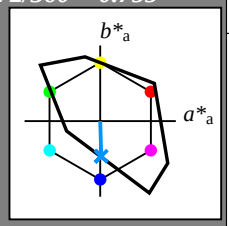
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness *n**

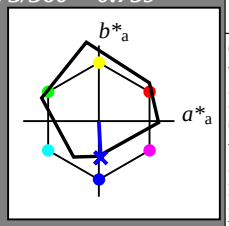
0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

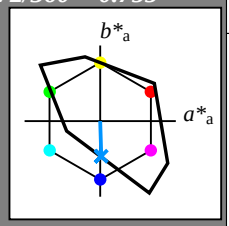
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 273/360 = 0.759 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

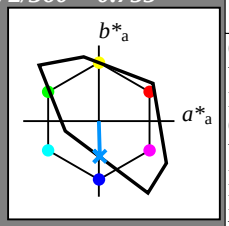
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

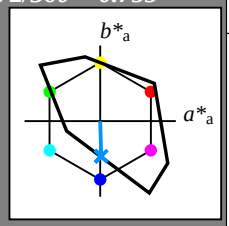
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

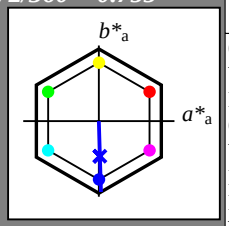
chromaticness *c**

*n** = 1,0

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

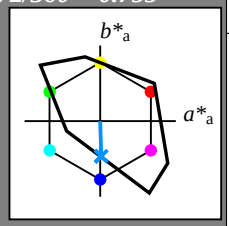
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness *n**

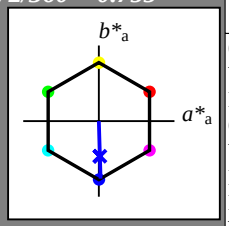
0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

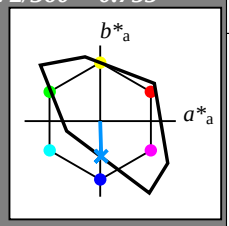
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

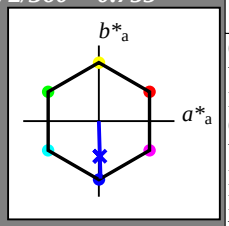
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

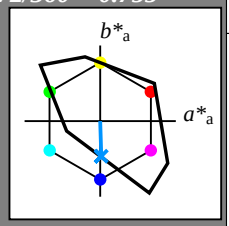
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

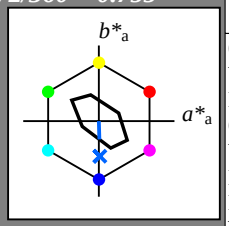
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

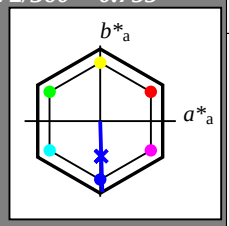
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

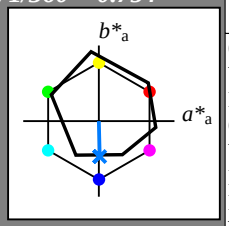
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 271/360 = 0.754
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

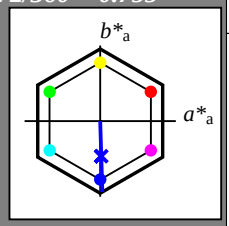
3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

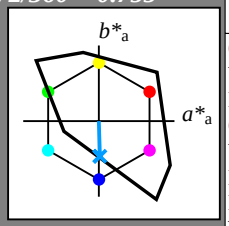
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

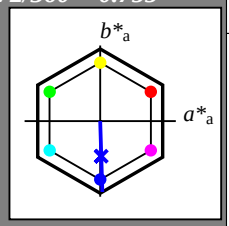
chromaticness *c**

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

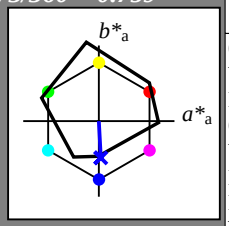
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

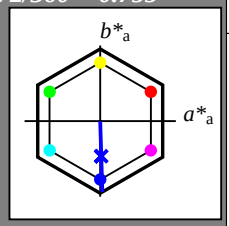
*n** = 1,0

3 step scales for constant CIELAB hue 273/360 = 0.759 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

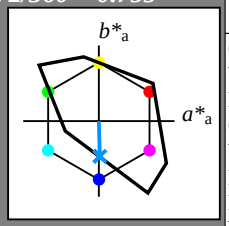
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

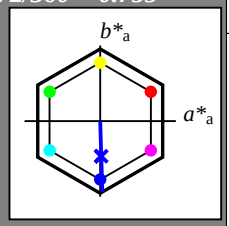
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

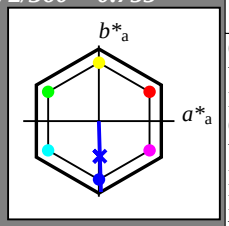
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

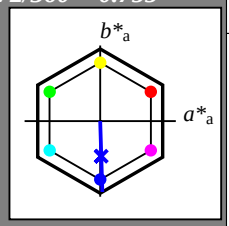
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

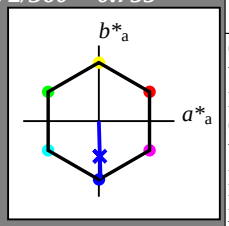
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

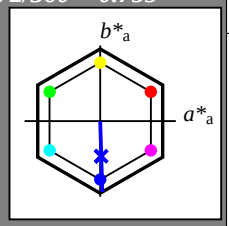
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

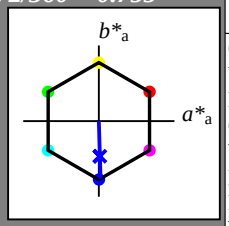
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

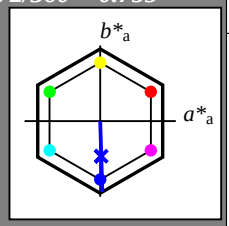
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

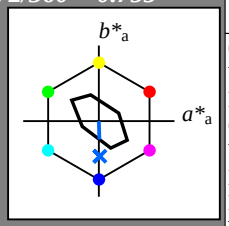
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

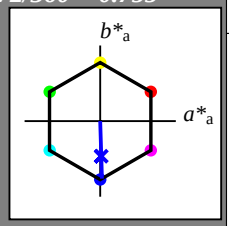
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

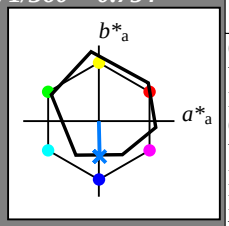
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

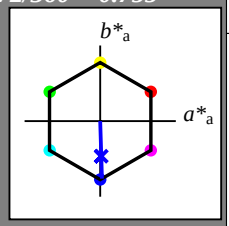
3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

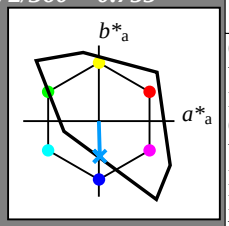
*n** = 1,0

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

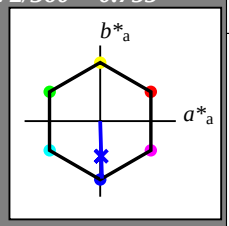
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

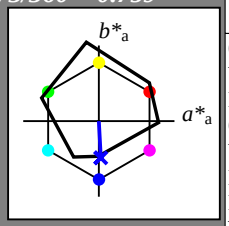
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

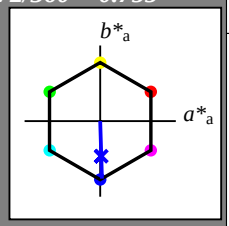
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 273/360 = 0.759 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

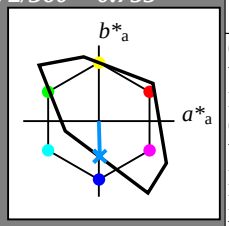
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

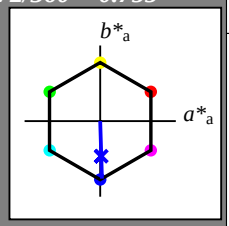
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

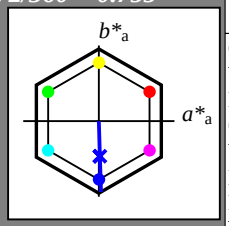
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Natural Luminous System NLS00

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

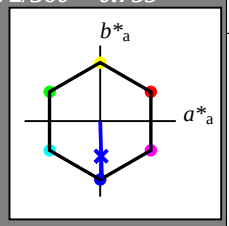
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

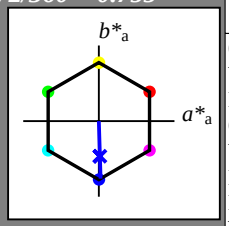
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

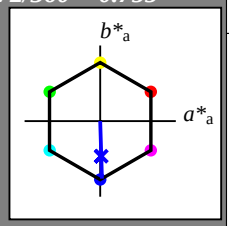
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

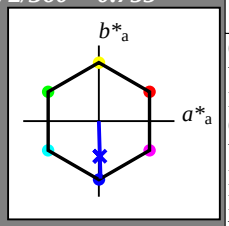
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

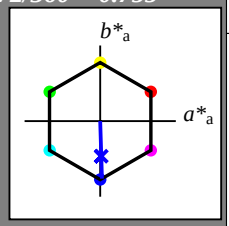
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

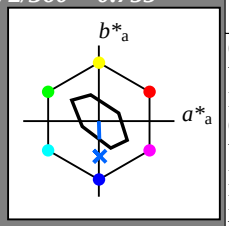
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

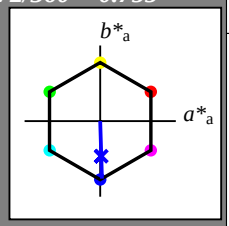
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u*$_{rel}$ = 100
%Regularity
g*$_{H,rel}$ = 100
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

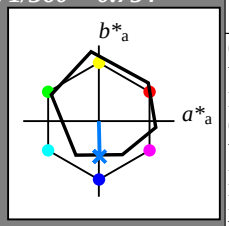
*n** = 1,0

Output: Colorimetric Offset Reflective System ORS18

for hue *h** = *lab*h* = 271/360 = 0.754
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u*$_{rel}$ = 93
%Regularity
g*$_{H,rel}$ = 57
g*$_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

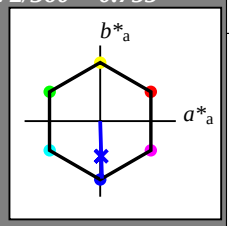
3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Standard Reflective System SRS18

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

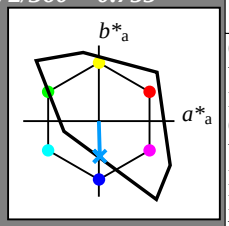
chromaticness *c**

Output: Colorimetric Television Luminous System TLS00

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 158
%Regularity
$g^*_{H,rel}$ = 20
$g^*_{C,rel}$ = 37

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

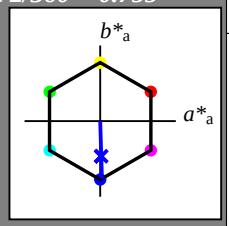
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

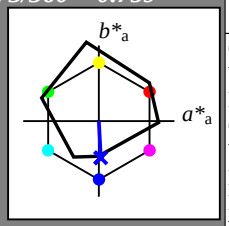
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

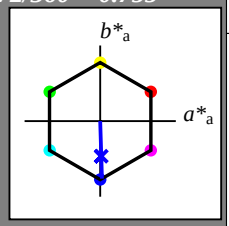
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 273/360 = 0.759 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

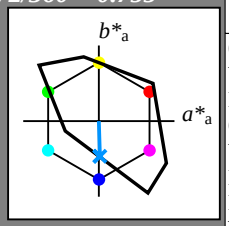
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

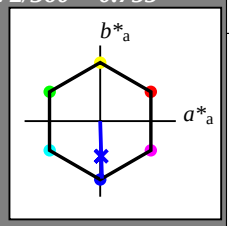
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

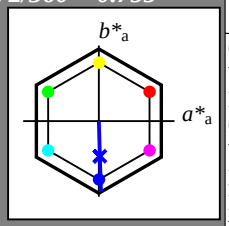
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

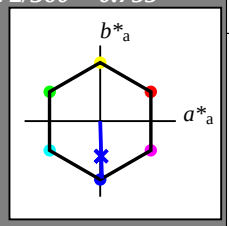
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

n^* = 0,50

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

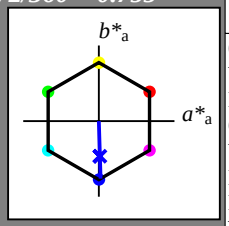
chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Natural Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

n^* = 0,50

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

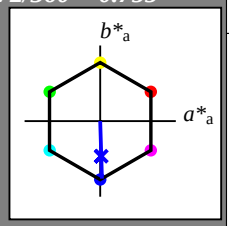
chromaticness *c**

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

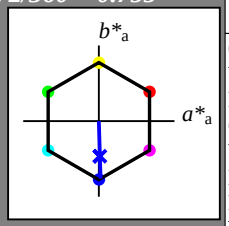
$n^* = 1{,}0$

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

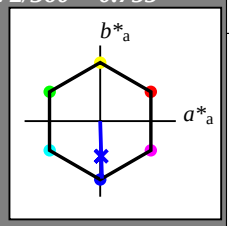
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

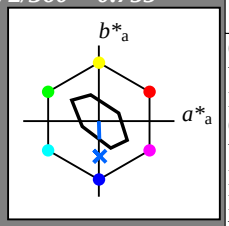
*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

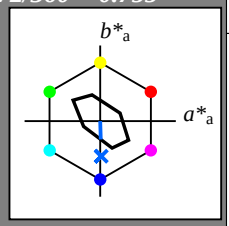
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness *n**

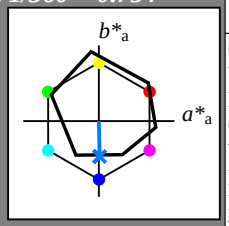
0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Offset Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.39	50.52	82.63	38
Y_{Ma}	90.37	−10.26	91.75	92.32	96
L_{Ma}	50.9	−62.83	34.96	71.91	151
C_{Ma}	58.62	−30.34	−45.01	54.3	236
V_{Ma}	25.72	31.1	−44.4	54.22	305
M_{Ma}	48.13	75.28	−8.36	75.74	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.57	25
J_{CIE}	81.26	−2.16	67.76	67.79	92
G_{CIE}	52.23	−42.25	11.76	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.86	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.98	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.24	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.47
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.6	0.07	−19.39
*LAB*LABa*	68.6	0.55	−22.34
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.82	−22.01
*LAB*LABa*	29.9	0.55	−22.34
*LAB*TCHa*	25.01	22.36	271.42

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.55
*LAB*LABa*	41.79	1.1	−44.69
*LAB*TCHa*	50.0	44.71	271.41

relative* CIELAB *lab*

*lab*lab*	0.307	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

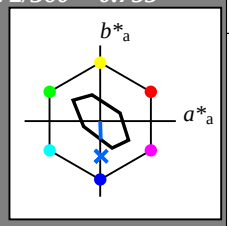
3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 272/360 = 0.755$
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
$u^*_{rel} = 16$
%Regularity
$g^*_{H,rel} = 34$
$g^*_{C,rel} = 51$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

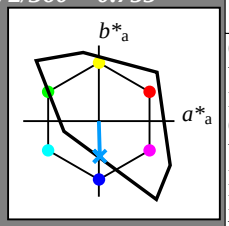
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 272/360 = 0.755$
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 65 49 272
olv*Ma: 0.0 0.61 1.0

triangle lightness *t**



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	50.5	76.92	64.55	100.42	40
Y_{Ma}	92.66	−20.69	90.75	93.08	103
L_{Ma}	83.63	−82.75	79.9	115.04	136
C_{Ma}	86.88	−46.16	−13.55	48.12	196
V_{Ma}	30.39	76.06	−103.59	128.52	306
M_{Ma}	57.3	94.35	−58.41	110.97	328
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
$u^*_{rel} = 158$
%Regularity
$g^*_{H,rel} = 20$
$g^*_{C,rel} = 37$

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.805	1.0	(1.0)
*cmyn3**	0.5	0.195	0.0	(0.0)
*olvi4**	0.5	0.805	1.0	1.0
*cmyn4**	0.5	0.195	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.13	0.73	−24.31
*LAB*LABa*	80.13	0.73	−24.31
*LAB*TCHa*	75.0	24.33	271.72

relative* CIELAB *lab*

*lab*lab*	0.84	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.84	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.305	0.5	(1.0)
*cmyn3**	1.0	0.695	0.5	(0.0)
*olvi4**	0.5	0.805	1.0	0.5
*cmyn4**	0.5	0.195	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.44	0.74	−24.32
*LAB*LABa*	32.44	0.74	−24.32
*LAB*TCHa*	25.01	24.34	271.75

relative* CIELAB *lab*

*lab*lab*	0.34	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.34	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.61	1.0	(1.0)
*cmyn3**	1.0	0.39	0.0	(0.0)
*olvi4**	0.0	0.61	1.0	1.0
*cmyn4**	1.0	0.39	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.86	1.47	−48.64
*LAB*LABa*	64.86	1.47	−48.64
*LAB*TCHa*	50.0	48.67	271.74

relative* CIELAB *lab*

*lab*lab*	0.68	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.68	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

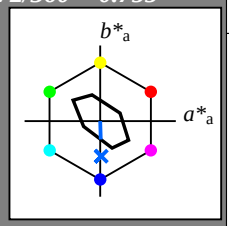
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

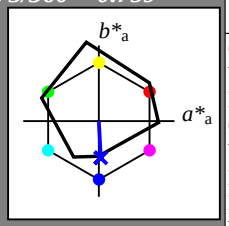
chromaticness *c**

*n** = 1,0

Output: Colorimetric Printer Reflective System DRSXX
for hue *h = *lab*h* = 273/360 = 0.759**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 35 45 273
olv*Ma: 0.04 0.0 1.0

triangle lightness *t**



DRSXX; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	42.21	66.82	50.6	83.82	37
Y_{Ma}	90.32	−16.51	104.33	105.63	99
L_{Ma}	48.21	−75.63	30.65	81.61	158
C_{Ma}	53.44	−33.33	−47.49	58.03	235
V_{Ma}	34.16	−0.92	−46.56	46.58	269
M_{Ma}	42.71	79.0	−1.95	79.03	359
N_{Ma}	16.56	0.0	0.0	0.0	0
W_{Ma}	96.31	0.0	0.0	0.0	0
R_{CIE}	39.92	59.78	25.77	65.1	23
J_{CIE}	81.26	−2.51	69.07	69.11	92
G_{CIE}	52.23	−41.57	11.3	43.09	165
B_{CIE}	30.57	2.6	−48.62	48.7	273

%Gamut
u^*_{rel} = 101
%Regularity
$g^*_{H,rel}$ = 38
$g^*_{C,rel}$ = 44

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	96.31	−0.11	2.58
*LAB*LABa*	96.31	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.44	−0.76	2.32
*LAB*LABa*	56.44	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.57	−1.41	2.06
*LAB*LABa*	16.57	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.521	0.5	1.0	(1.0)
*cmyn3**	0.479	0.5	0.0	(0.0)
*olvi4**	0.521	0.5	1.0	1.0
*cmyn4**	0.479	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	0.57	−19.96
*LAB*LABa*	65.41	1.2	−22.35
*LAB*TCHa*	75.0	22.39	273.06

relative* CIELAB *lab*

*lab*lab*	0.613	0.027	−0.498
*lab*tch*	0.75	0.5	0.759
*lab*nch*	0.0	0.5	0.759

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.021	0.0	0.5	(1.0)
*cmyn3**	0.979	1.0	0.5	(0.0)
*olvi4**	0.521	0.5	1.0	0.5
*cmyn4**	0.479	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.54	−0.08	−20.22
*LAB*LABa*	25.54	1.19	−22.35
*LAB*TCHa*	25.01	22.39	273.04

relative* CIELAB *lab*

*lab*lab*	0.113	0.027	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.113	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.042	0.0	1.0	(1.0)
*cmyn3**	0.958	1.0	0.0	(0.0)
*olvi4**	0.042	0.0	1.0	1.0
*cmyn4**	0.958	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.52	1.26	−42.52
*LAB*LABa*	34.52	2.38	−44.71
*LAB*TCHa*	50.0	44.78	273.05

relative* CIELAB *lab*

*lab*lab*	0.225	0.053	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

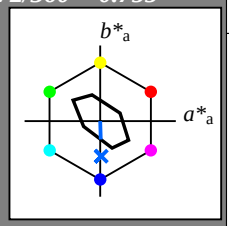
3 step scales for constant CIELAB hue 273/360 = 0.759 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

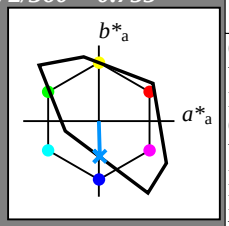
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Television Luminous System TLS18

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 65 48 272
olv*Ma: 0.0 0.58 1.0

triangle lightness *t**



TLS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	52.76	71.63	49.88	87.29	35
Y_{Ma}	92.74	−20.02	84.97	87.3	103
L_{Ma}	84.0	−78.98	73.94	108.2	137
C_{Ma}	87.14	−44.41	−13.11	46.32	196
V_{Ma}	35.47	64.92	−95.06	115.12	304
M_{Ma}	59.01	89.33	−55.67	105.26	328
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 118
%Regularity
$g^*_{H,rel}$ = 22
$g^*_{C,rel}$ = 40

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.79	1.0	(1.0)
*cmyn3**	0.5	0.21	0.0	(0.0)
*olvi4**	0.5	0.79	1.0	1.0
*cmyn4**	0.5	0.21	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.44	0.71	−23.73
*LAB*LABa*	80.44	0.71	−23.73
*LAB*TCHa*	75.0	23.75	271.72

relative* CIELAB *lab*

*lab*lab*	0.807	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.807	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.29	0.5	(1.0)
*cmyn3**	1.0	0.71	0.5	(0.0)
*olvi4**	0.5	0.79	1.0	0.5
*cmyn4**	0.5	0.21	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.74	0.72	−23.74
*LAB*LABa*	41.74	0.72	−23.74
*LAB*TCHa*	25.01	23.76	271.75

relative* CIELAB *lab*

*lab*lab*	0.307	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.581	1.0	(1.0)
*cmyn3**	1.0	0.419	0.0	(0.0)
*olvi4**	0.0	0.581	1.0	1.0
*cmyn4**	1.0	0.419	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.47	1.44	−47.47
*LAB*LABa*	65.47	1.44	−47.47
*LAB*TCHa*	50.0	47.5	271.74

relative* CIELAB *lab*

*lab*lab*	0.613	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.613	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

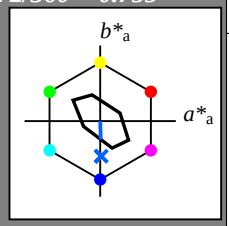
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness n^*

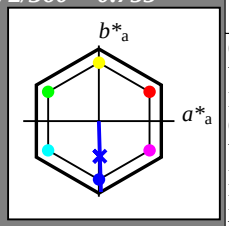
0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

Output: Colorimetric Natural Luminous System NLS00
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 33 94 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	31.81	82.62	47.7	95.4	30
Y_{Ma}	63.61	0.0	95.4	95.4	90
L_{Ma}	31.81	−82.61	47.7	95.4	150
C_{Ma}	63.61	−82.61	−47.69	95.4	210
V_{Ma}	31.81	0.0	−95.39	95.4	270
M_{Ma}	63.61	82.62	−47.69	95.4	330
N_{Ma}	0.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 152
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.02	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.72	0.0	0.0
*LAB*LABa*	47.72	0.0	0.0
*LAB*TCHa*	50.0	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	0.03	0.0	0.0
*LAB*LABa*	0.03	0.0	0.0
*LAB*TCHa*	0.01	0.02	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	64.15	1.42	−46.86
*LAB*LABa*	64.15	1.42	−46.86
*LAB*TCHa*	75.0	46.89	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	16.46	1.41	−46.86
*LAB*LABa*	16.46	1.41	−46.86
*LAB*TCHa*	25.01	46.9	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.9	2.84	−93.73
*LAB*LABa*	32.9	2.84	−93.73
*LAB*TCHa*	50.0	93.79	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

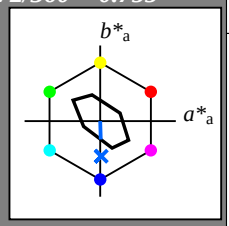
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS70

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

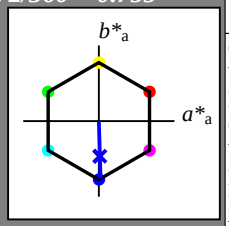
chromaticness c^*

Output: Colorimetric Natural Reflective System NRS18

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 45 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	43.81	67.03	38.7	77.4	30
Y_{Ma}	69.61	0.0	77.4	77.4	90
L_{Ma}	43.81	−67.02	38.7	77.4	150
C_{Ma}	69.61	−67.02	−38.69	77.4	210
V_{Ma}	43.81	0.0	−77.39	77.4	270
M_{Ma}	69.61	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.05	1.15	−38.02
*LAB*LABa*	70.05	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.672	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.672	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.36	1.15	−38.02
*LAB*LABa*	31.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.172	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.172	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.7	2.3	−76.05
*LAB*LABa*	44.7	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.345	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.345	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

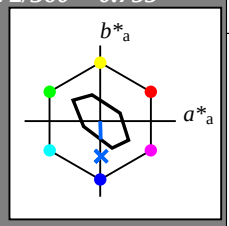
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness n^*

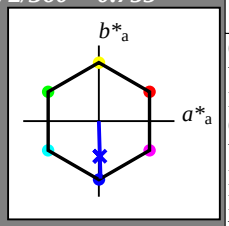
0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

Output: Colorimetric Standard Reflective System SRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.03 0.0 1.0

triangle lightness *t**



SRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	56.71	67.03	38.7	77.4	30
Y_{Ma}	56.71	0.0	77.4	77.4	90
L_{Ma}	56.71	−67.02	38.7	77.4	150
C_{Ma}	56.71	−67.02	−38.69	77.4	210
V_{Ma}	56.71	0.0	−77.39	77.4	270
M_{Ma}	56.71	67.03	−38.69	77.4	330
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 100
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.0	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.03	0.0	0.0
*LAB*LABa*	18.03	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.517	0.5	1.0	(1.0)
*cmyn3**	0.483	0.5	0.0	(0.0)
*olvi4**	0.517	0.5	1.0	1.0
*cmyn4**	0.483	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.06	1.15	−38.02
*LAB*LABa*	76.06	1.15	−38.02
*LAB*TCHa*	75.0	38.04	271.74

relative* CIELAB *lab*

*lab*lab*	0.75	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.017	0.0	0.5	(1.0)
*cmyn3**	0.983	1.0	0.5	(0.0)
*olvi4**	0.517	0.5	1.0	0.5
*cmyn4**	0.483	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.15	−38.02
*LAB*LABa*	37.36	1.15	−38.02
*LAB*TCHa*	25.01	38.05	271.73

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.034	0.0	1.0	(1.0)
*cmyn3**	0.966	1.0	0.0	(0.0)
*olvi4**	0.035	0.0	1.0	1.0
*cmyn4**	0.965	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	2.3	−76.05
*LAB*LABa*	56.71	2.3	−76.05
*LAB*TCHa*	50.0	76.09	271.73

relative* CIELAB *lab*

*lab*lab*	0.5	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	g99b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

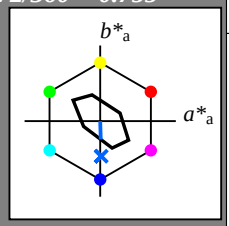
NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

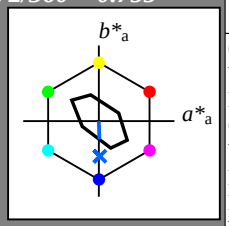
chromaticness *c**

*n** = 1,0

Output: Colorimetric Television Luminous System TLS70
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 80 24 272
olv*Ma: 0.0 0.4 1.0

triangle lightness *t**



TLS70; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
O_{Ma}	76.43	26.27	10.57	28.32	22
Y_{Ma}	93.93	−10.76	34.63	36.27	107
L_{Ma}	89.32	−35.8	27.64	45.24	142
C_{Ma}	90.93	−21.95	−7.07	23.07	198
V_{Ma}	72.1	15.76	−35.63	38.97	294
M_{Ma}	78.5	37.52	−25.23	45.22	326
N_{Ma}	69.7	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.74	27.99	65.07	25
J_{CIE}	81.26	−2.88	71.56	71.62	92
G_{CIE}	52.23	−42.41	13.6	44.55	162
B_{CIE}	30.57	1.41	−46.46	46.49	272

%Gamut
u^*_{rel} = 16
%Regularity
$g^*_{H,rel}$ = 34
$g^*_{C,rel}$ = 51

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.0	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.699	1.0	(1.0)
*cmyn3**	0.5	0.301	0.0	(0.0)
*olvi4**	0.5	0.699	1.0	1.0
*cmyn4**	0.5	0.301	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	87.5	0.37	−12.12
*LAB*LABa*	87.5	0.37	−12.12
*LAB*TCHa*	75.0	12.13	271.73

relative* CIELAB *lab*

*lab*lab*	0.693	0.015	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	82.56	0.0	0.0
*LAB*LABa*	82.56	0.0	0.0
*LAB*TCHa*	50.0	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.199	0.5	(1.0)
*cmyn3**	1.0	0.801	0.5	(0.0)
*olvi4**	0.5	0.699	1.0	0.5
*cmyn4**	0.5	0.301	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.65	0.37	−12.12
*LAB*LABa*	74.65	0.37	−12.12
*LAB*TCHa*	25.01	12.14	271.75

relative* CIELAB *lab*

*lab*lab*	0.193	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.7	0.0	0.0
*LAB*LABa*	69.7	0.0	0.0
*LAB*TCHa*	0.01	0.0	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.398	1.0	(1.0)
*cmyn3**	1.0	0.602	0.0	(0.0)
*olvi4**	0.0	0.398	1.0	1.0
*cmyn4**	1.0	0.602	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.6	0.74	−24.25
*LAB*LABa*	79.6	0.74	−24.25
*LAB*TCHa*	50.0	24.27	271.74

relative* CIELAB *lab*

*lab*lab*	0.385	0.03	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.385	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

NE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)