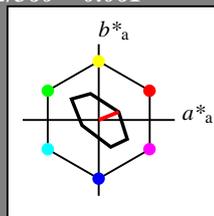


Input: Colorimetric Television Luminous System TLS70

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

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

triangle lightness t^*



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	76.43	26.27	10.57	28.32	22
YMa	93.93	-10.76	34.63	36.27	107
LMa	89.32	-35.8	27.64	45.24	142
CMa	90.93	-21.95	-7.07	23.07	198
VMa	72.1	15.76	-35.63	38.97	294
MMa	78.5	37.52	-25.23	45.22	326
NMa	69.7	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 16$

%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	95.41	0.0	0.0
LAB*LABa	95.41	0.0	0.0
LAB*TCHa	99.99	0.0	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

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

relative Natural Colour (NC)

lab*lrj	0.631	0.499	-0.024
lab*tce	0.75	0.5	0.992
lab*nce	0.0	0.5	0.992

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	69.7	0.0	0.0
LAB*LABa	69.7	0.0	0.0
LAB*TCHa	0.01	0.0	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

$n^* = 1.0$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

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

relative Natural Colour (NC)

lab*lrj	0.631	0.499	-0.024
lab*tce	0.75	0.5	0.992
lab*nce	0.0	0.5	0.992

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

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

relative Natural Colour (NC)

lab*lrj	0.131	0.499	-0.024
lab*tce	0.25	0.5	0.992
lab*nce	0.5	0.5	0.992

$n^* = 0.50$

chromaticness c^*

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

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

relative Natural Colour (NC)

lab*lrj	0.262	0.999	-0.048
lab*tce	0.5	1.0	0.992
lab*nce	0.0	1.0	0.992

$n^* = 0.00$

blackness n^*

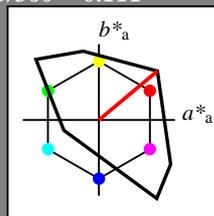
chromaticness c^*

Output: Colorimetric Television Luminous System TLS00

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

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

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

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

relative Natural Colour (NC)

lab*lrj	0.765	0.471	0.167
lab*tce	0.75	0.5	0.054
lab*nce	0.0	0.5	0.054

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	0.265	0.383	0.321
lab*tch	0.25	0.5	0.111
lab*nch	0.0	0.5	0.111

relative Natural Colour (NC)

lab*lrj	0.265	0.471	0.167
lab*tce	0.25	0.5	0.054
lab*nce	0.0	0.5	0.054

$n^* = 0.00$

blackness n^*

chromaticness c^*

$n^* = 1.0$

NE180-7, 3 step scales for constant CIELAB hue 22/360 = 0.061 (left)

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

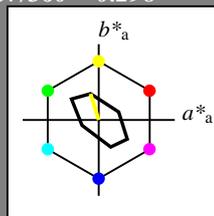
BAM-test chart NE18; Colorimetric systems TLS70 & TLS00
 D65: 2 coordinate data of 3 step colour scales for 10 hues

input: $olv^* setrgbcolor$
 output: no change compared to input

Input: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 107/360 = 0.298$
 lab^*tch and lab^*nch

D65: hue Y
 LCH*Ma: 94 36 107
 olv*Ma: 1.0 1.0 0.0
 triangle lightness t^*



TLS70; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	76.43	26.27	10.57	28.32	22
YMa	93.93	-10.76	34.63	36.27	107
LMa	89.32	-35.8	27.64	45.24	142
CMa	90.93	-21.95	-7.07	23.07	198
VMa	72.1	15.76	-35.63	38.97	294
MMa	78.5	37.52	-25.23	45.22	326
NMa	69.7	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

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

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olvi4* 1.0 1.0 1.0 1.0
 cmyn4* 0.0 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 95.41 0.0 0.0
 LAB*LABa 95.41 0.0 0.0
 LAB*TCHa 99.99 0.0 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 0.5 (1.0)
 cmyn3* 0.0 0.0 0.5 (0.0)
 olvi4* 1.0 1.0 0.5 1.0
 cmyn4* 0.0 0.0 0.5 0.0

standard and adapted CIELAB
 LAB*LAB 94.67 -5.37 17.31
 LAB*LABa 94.67 -5.37 17.31
 LAB*TCHa 75.0 18.13 107.28

relative CIELAB lab*
 lab*lab 0.971 -0.147 0.477
 lab*tch 0.75 0.5 0.298
 lab*nch 0.0 0.5 0.298

relative Natural Colour (NC)
 lab*lrj 0.971 -0.164 0.472
 lab*tce 0.75 0.5 0.304
 lab*nce 0.0 0.5 j21g

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olvi4* 1.0 1.0 1.0 0.5
 cmyn4* 0.0 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 82.56 0.0 0.0
 LAB*LABa 82.56 0.0 0.0
 LAB*TCHa 50.0 0.0 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.0 (1.0)
 cmyn3* 0.5 0.5 1.0 (0.0)
 olvi4* 1.0 1.0 0.5 0.5
 cmyn4* 0.0 0.0 0.5 0.5

standard and adapted CIELAB
 LAB*LAB 81.82 -5.37 17.31
 LAB*LABa 81.82 -5.37 17.31
 LAB*TCHa 25.01 18.13 107.28

relative CIELAB lab*
 lab*lab 0.471 -0.147 0.477
 lab*tch 0.25 0.5 0.298
 lab*nch 0.5 0.5 0.298

relative Natural Colour (NC)
 lab*lrj 0.471 -0.164 0.472
 lab*tce 0.25 0.5 0.304
 lab*nce 0.5 0.5 j21g

relative Inform. Technology (IT)
 olvi3* 0.0 0.0 0.0 (1.0)
 cmyn3* 1.0 1.0 1.0 (0.0)
 olvi4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 69.7 0.0 0.0
 LAB*LABa 69.7 0.0 0.0
 LAB*TCHa 0.01 0.0 -

relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.0 (1.0)
 cmyn3* 1.0 1.0 0.0 (0.0)
 olvi4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 0.03 0.0 0.0
 LAB*LABa 0.03 0.0 0.0
 LAB*TCHa 0.01 0.01 -

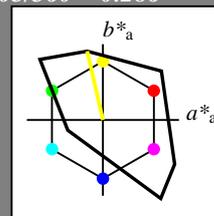
relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 103/360 = 0.286$
 lab^*tch and lab^*nch

D65: hue Y
 LCH*Ma: 93 93 103
 olv*Ma: 1.0 1.0 0.0
 triangle lightness t^*



TLS00; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

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

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olvi4* 1.0 1.0 1.0 1.0
 cmyn4* 0.0 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 95.41 0.0 0.0
 LAB*LABa 95.41 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 0.5 (1.0)
 cmyn3* 0.0 0.0 0.5 (0.0)
 olvi4* 1.0 1.0 0.5 1.0
 cmyn4* 0.0 0.0 0.5 0.0

standard and adapted CIELAB
 LAB*LAB 94.03 -10.34 45.37
 LAB*LABa 94.03 -10.34 45.37
 LAB*TCHa 75.0 46.53 102.85

relative CIELAB lab*
 lab*lab 0.985 -0.11 0.487
 lab*tch 0.75 0.5 0.286
 lab*nch 0.0 0.5 0.286

relative Natural Colour (NC)
 lab*lrj 0.985 -0.116 0.486
 lab*tce 0.75 0.5 0.288
 lab*nce 0.0 0.5 j15g

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olvi4* 1.0 1.0 1.0 0.5
 cmyn4* 0.0 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 47.72 0.0 0.0
 LAB*LABa 47.72 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.0 (1.0)
 cmyn3* 0.5 0.5 1.0 (0.0)
 olvi4* 1.0 1.0 0.5 0.5
 cmyn4* 0.0 0.0 0.5 0.5

standard and adapted CIELAB
 LAB*LAB 46.34 -10.34 45.37
 LAB*LABa 46.34 -10.34 45.37
 LAB*TCHa 25.01 46.53 102.85

relative CIELAB lab*
 lab*lab 0.486 -0.11 0.487
 lab*tch 0.25 0.5 0.286
 lab*nch 0.5 0.5 0.286

relative Natural Colour (NC)
 lab*lrj 0.486 -0.116 0.486
 lab*tce 0.25 0.5 0.288
 lab*nce 0.5 0.5 j15g

relative Inform. Technology (IT)
 olvi3* 0.0 0.0 0.0 (1.0)
 cmyn3* 1.0 1.0 1.0 (0.0)
 olvi4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 0.03 0.0 0.0
 LAB*LABa 0.03 0.0 0.0
 LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

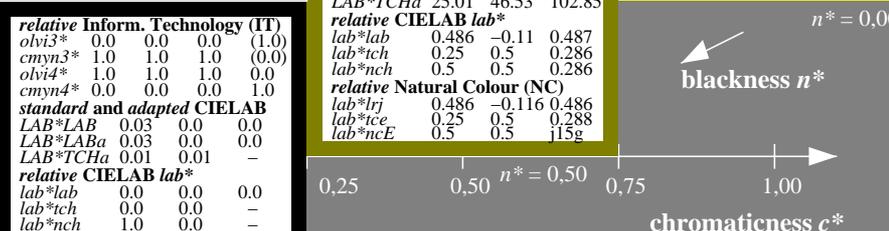
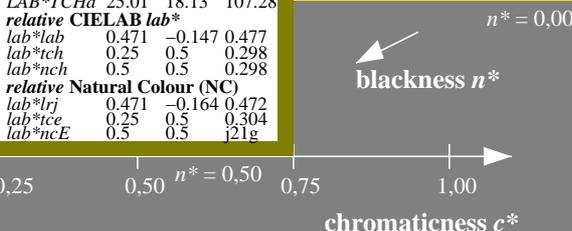
relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.0 0.0 0.0 (1.0)
 cmyn3* 1.0 1.0 1.0 (0.0)
 olvi4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 0.03 0.0 0.0
 LAB*LABa 0.03 0.0 0.0
 LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -



NE180-7, 3 step scales for constant CIELAB hue 107/360 = 0.298 (left)

3 step scales for constant CIELAB hue 103/360 = 0.286 (right)

BAM-test chart NE18; Colorimetric systems TLS70 & TLS00
 D65: 2 coordinate data of 3 step colour scales for 10 hues

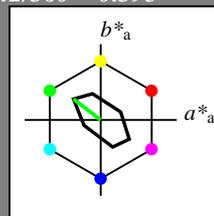
input: $olv^* setrgbcolor$
 output: no change compared to input

Input: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 142/360 = 0.395$
 lab^*tch and lab^*nch

D65: hue L
 LCH*Ma: 89 45 142
 olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



TLS70; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	76.43	26.27	10.57	28.32	22
YMa	93.93	-10.76	34.63	36.27	107
LMa	89.32	-35.8	27.64	45.24	142
CMa	90.93	-21.95	-7.07	23.07	198
VMa	72.1	15.76	-35.63	38.97	294
MMa	78.5	37.52	-25.23	45.22	326
NMa	69.7	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 16$

%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	95.41	0.0	0.0
LAB*LABa	95.41	0.0	0.0
LAB*TCHa	99.99	0.0	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	82.56	0.0	0.0
LAB*LABa	82.56	0.0	0.0
LAB*TCHa	50.0	0.0	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	69.7	0.0	0.0
LAB*LABa	69.7	0.0	0.0
LAB*TCHa	0.01	0.0	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

$n^* = 1.0$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	92.36	-17.89	13.82
LAB*LABa	92.36	-17.89	13.82
LAB*TCHa	75.0	22.61	142.34

relative CIELAB lab*

lab*lab	0.881	-0.395	0.305
lab*tch	0.75	0.5	0.395
lab*nch	0.0	0.5	0.395

relative Natural Colour (NC)

lab*lrj	0.881	-0.45	0.216
lab*tce	0.75	0.5	0.429
lab*nce	0.0	0.5	0.171g

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	79.51	-17.89	13.82
LAB*LABa	79.51	-17.89	13.82
LAB*TCHa	25.01	22.61	142.34

relative CIELAB lab*

lab*lab	0.382	-0.395	0.305
lab*tch	0.25	0.5	0.395
lab*nch	0.5	0.5	0.395

relative Natural Colour (NC)

lab*lrj	0.382	-0.45	0.216
lab*tce	0.25	0.5	0.429
lab*nce	0.5	0.5	0.171g

$n^* = 0.50$

blackness n^*

chromaticness c^*

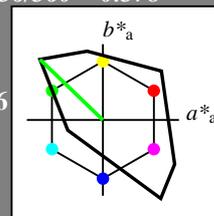
$n^* = 0.00$

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 136/360 = 0.378$
 lab^*tch and lab^*nch

D65: hue L
 LCH*Ma: 84 115 136
 olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	0.03	0.0	0.0
LAB*LABa	0.03	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

$n^* = 1.0$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	89.51	-41.36	39.94
LAB*LABa	89.51	-41.36	39.94
LAB*TCHa	75.0	57.51	136.01

relative CIELAB lab*

lab*lab	0.938	-0.359	0.347
lab*tch	0.75	0.5	0.378
lab*nch	0.0	0.5	0.378

relative Natural Colour (NC)

lab*lrj	0.938	-0.415	0.278
lab*tce	0.75	0.5	0.406
lab*nce	0.0	0.5	0.162g

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	41.82	-41.36	39.94
LAB*LABa	41.82	-41.36	39.94
LAB*TCHa	25.01	57.51	136.01

relative CIELAB lab*

lab*lab	0.438	-0.359	0.347
lab*tch	0.25	0.5	0.378
lab*nch	0.5	0.5	0.378

relative Natural Colour (NC)

lab*lrj	0.438	-0.415	0.278
lab*tce	0.25	0.5	0.406
lab*nce	0.5	0.5	0.162g

$n^* = 0.50$

blackness n^*

chromaticness c^*

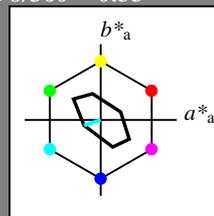
$n^* = 0.00$

Input: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 198/360 = 0.55$
 lab^*tch and lab^*nch

D65: hue C
 LCH*Ma: 91 23 198
 olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	76.43	26.27	10.57	28.32	22
YMa	93.93	-10.76	34.63	36.27	107
LMa	89.32	-35.8	27.64	45.24	142
CMa	90.93	-21.95	-7.07	23.07	198
VMa	72.1	15.76	-35.63	38.97	294
MMa	78.5	37.52	-25.23	45.22	326
NMa	69.7	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 16$

%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	95.41	0.0	0.0
LAB*LABa	95.41	0.0	0.0
LAB*TCHa	99.99	0.0	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	93.17	-10.97	-3.53
LAB*LABa	93.17	-10.97	-3.53
LAB*TCHa	75.0	11.53	197.87

relative CIELAB lab*

lab*lab	0.913	-0.475	-0.152
lab*tch	0.75	0.5	0.55
lab*nch	0.0	0.5	0.55

relative Natural Colour (NC)

lab*lrj	0.913	-0.435	-0.244
lab*tce	0.75	0.5	0.581
lab*nce	0.0	0.5	g32b

standard and adapted CIELAB

LAB*LAB	90.93	-21.95	-7.07
LAB*LABa	90.93	-21.95	-7.07
LAB*TCHa	50.0	23.07	197.87

relative CIELAB lab*

lab*lab	0.826	-0.951	-0.306
lab*tch	0.5	1.0	0.55
lab*nch	0.0	1.0	0.55

relative Natural Colour (NC)

lab*lrj	0.826	-0.871	-0.488
lab*tce	0.5	1.0	0.581
lab*nce	0.0	1.0	g32b

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	80.32	-10.97	-3.53
LAB*LABa	80.32	-10.97	-3.53
LAB*TCHa	25.01	11.53	197.87

relative CIELAB lab*

lab*lab	0.413	-0.475	-0.152
lab*tch	0.25	0.5	0.55
lab*nch	0.5	0.5	0.55

relative Natural Colour (NC)

lab*lrj	0.413	-0.435	-0.244
lab*tce	0.25	0.5	0.581
lab*nce	0.5	0.5	g32b

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	69.7	0.0	0.0
LAB*LABa	69.7	0.0	0.0
LAB*TCHa	0.01	0.0	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

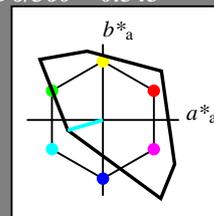
lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 196/360 = 0.545$
 lab^*tch and lab^*nch

D65: hue C
 LCH*Ma: 87 48 196
 olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	91.14	-23.07	-6.77
LAB*LABa	91.14	-23.07	-6.77
LAB*TCHa	75.0	24.06	196.37

relative CIELAB lab*

lab*lab	0.955	-0.479	-0.14
lab*tch	0.75	0.5	0.545
lab*nch	0.0	0.5	0.545

relative Natural Colour (NC)

lab*lrj	0.955	-0.44	-0.234
lab*tce	0.75	0.5	0.578
lab*nce	0.0	0.5	g31b

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	43.45	-23.07	-6.77
LAB*LABa	43.45	-23.07	-6.77
LAB*TCHa	25.01	24.06	196.37

relative CIELAB lab*

lab*lab	0.455	-0.479	-0.14
lab*tch	0.25	0.5	0.545
lab*nch	0.5	0.5	0.545

relative Natural Colour (NC)

lab*lrj	0.455	-0.44	-0.234
lab*tce	0.25	0.5	0.578
lab*nce	0.5	0.5	g31b

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	0.03	0.0	0.0
LAB*LABa	0.03	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

See for similar files: <http://www.ps.bam.de/NE18/>
 Technical information: <http://www.ps.bam.de>
 Version 2.1, io=1,1

BAM registration: 20060101-NE18/10Q/Q18E03NP.PS/.PDF BAM material: code=rh4ta
 application for evaluation and measurement of printer or monitor systems
 /NE18/ Form: 4/10, Serie: 1/1, Page: 4 Page count: 4

NE180-7, 3 step scales for constant CIELAB hue 198/360 = 0.55 (left)

3 step scales for constant CIELAB hue 196/360 = 0.545 (right)

BAM-test chart NE18; Colorimetric systems TLS70 & TLS00
 D65: 2 coordinate data of 3 step colour scales for 10 hues

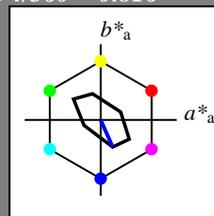
input: olv* setrgbcolor
 output: no change compared to input

Input: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 294/360 = 0.816$
 lab^*tch and lab^*nch

D65: hue V
 LCH*Ma: 72 39 294
 olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



TLS70; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	76.43	26.27	10.57	28.32	22
YMa	93.93	-10.76	34.63	36.27	107
LMa	89.32	-35.8	27.64	45.24	142
CMa	90.93	-21.95	-7.07	23.07	198
VMa	72.1	15.76	-35.63	38.97	294
MMa	78.5	37.52	-25.23	45.22	326
NMa	69.7	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 16$

%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	95.41	0.0	0.0
LAB*LABa	95.41	0.0	0.0
LAB*TCHa	99.99	0.0	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	83.75	7.88	-17.81
LAB*LABa	83.75	7.88	-17.81
LAB*TCHa	75.0	19.48	293.86

relative CIELAB lab*

lab*lab	0.547	0.202	-0.456
lab*tch	0.75	0.5	0.816
lab*nch	0.0	0.5	0.816

relative Natural Colour (NC)

lab*lrj	0.547	0.15	-0.476
lab*tce	0.75	0.5	0.799
lab*nce	0.0	0.5	b19r

standard and adapted CIELAB

LAB*LAB	83.75	7.88	-17.81
LAB*LABa	83.75	7.88	-17.81
LAB*TCHa	75.0	19.48	293.86

relative CIELAB lab*

lab*lab	0.093	0.404	-0.913
lab*tch	0.5	1.0	0.816
lab*nch	0.0	1.0	0.816

relative Natural Colour (NC)

lab*lrj	0.093	0.301	-0.953
lab*tce	0.5	1.0	0.799
lab*nce	0.0	1.0	b19r

standard and adapted CIELAB

LAB*LAB	70.9	7.88	-17.81
LAB*LABa	70.9	7.88	-17.81
LAB*TCHa	25.01	19.48	293.86

relative CIELAB lab*

lab*lab	0.047	0.15	-0.476
lab*tch	0.25	0.5	0.799
lab*nch	0.5	0.5	b19r

relative Natural Colour (NC)

lab*lrj	0.047	0.15	-0.476
lab*tce	0.25	0.5	0.799
lab*nce	0.5	0.5	b19r

standard and adapted CIELAB

LAB*LAB	69.7	0.0	0.0
LAB*LABa	69.7	0.0	0.0
LAB*TCHa	0.01	0.0	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

$n^* = 1.0$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	72.1	15.76	-35.62
LAB*LABa	72.1	15.76	-35.62
LAB*TCHa	50.0	38.96	293.86

relative CIELAB lab*

lab*lab	0.093	0.404	-0.913
lab*tch	0.5	1.0	0.816
lab*nch	0.0	1.0	0.816

relative Natural Colour (NC)

lab*lrj	0.093	0.301	-0.953
lab*tce	0.5	1.0	0.799
lab*nce	0.0	1.0	b19r

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

standard and adapted CIELAB

LAB*LAB	0.03	0.0	0.0
LAB*LABa	0.03	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

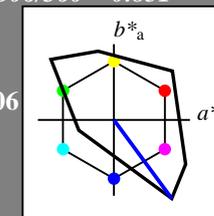
$n^* = 1.0$

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 306/360 = 0.851$
 lab^*tch and lab^*nch

D65: hue V
 LCH*Ma: 30 129 306
 olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	62.9	38.02	-51.78
LAB*LABa	62.9	38.02	-51.78
LAB*TCHa	75.0	64.25	306.29

relative CIELAB lab*

lab*lab	0.659	0.296	-0.402
lab*tch	0.75	0.5	0.851
lab*nch	0.0	0.5	0.851

relative Natural Colour (NC)

lab*lrj	0.659	0.23	-0.443
lab*tce	0.75	0.5	0.826
lab*nce	0.0	0.5	b30r

standard and adapted CIELAB

LAB*LAB	62.9	38.02	-51.78
LAB*LABa	62.9	38.02	-51.78
LAB*TCHa	75.0	64.25	306.29

relative CIELAB lab*

lab*lab	0.659	0.296	-0.402
lab*tch	0.75	0.5	0.851
lab*nch	0.0	0.5	0.851

relative Natural Colour (NC)

lab*lrj	0.659	0.23	-0.443
lab*tce	0.75	0.5	0.826
lab*nce	0.0	0.5	b30r

standard and adapted CIELAB

LAB*LAB	15.21	38.02	-51.78
LAB*LABa	15.21	38.02	-51.78
LAB*TCHa	25.01	64.25	306.29

relative CIELAB lab*

lab*lab	0.159	0.296	-0.402
lab*tch	0.25	0.5	0.851
lab*nch	0.5	0.5	0.851

relative Natural Colour (NC)

lab*lrj	0.159	0.23	-0.443
lab*tce	0.25	0.5	0.826
lab*nce	0.5	0.5	b30r

standard and adapted CIELAB

LAB*LAB	0.03	0.0	0.0
LAB*LABa	0.03	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

$n^* = 1.0$

See for similar files: <http://www.ps.bam.de/NE18/>
 Technical information: <http://www.ps.bam.de>
 Version 2.1, io=1,1

BAM registration: 20060101-NE18/10Q/Q18E04NP.PS/.PDF BAM material: code=rh4ta
 application for evaluation and measurement of printer or monitor systems
 /NE18/ Form: 5/10, Serie: 1/1, Page: 5 Page count: 5

NE180-7, 3 step scales for constant CIELAB hue 294/360 = 0.816 (left)

3 step scales for constant CIELAB hue 306/360 = 0.851 (right)

BAM-test chart NE18; Colorimetric systems TLS70 & TLS00
 D65: 2 coordinate data of 3 step colour scales for 10 hues

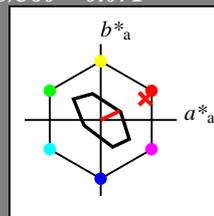
input: $olv^* setrgbcolor$
 output: no change compared to input

Input: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 25/360 = 0.071$
 lab^*tch and lab^*nch

D65: hue R
 LCH*Ma: 77 27 25
 olv*Ma: 1.0 0.05 0.0

triangle lightness t^*



TLS70; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	76.43	26.27	10.57	28.32	22
YMa	93.93	-10.76	34.63	36.27	107
LMa	89.32	-35.8	27.64	45.24	142
CMa	90.93	-21.95	-7.07	23.07	198
VMa	72.1	15.76	-35.63	38.97	294
MMa	78.5	37.52	-25.23	45.22	326
NMa	69.7	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 16$

%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	95.41	0.0	0.0
LAB*LABa	95.41	0.0	0.0
LAB*TCHa	99.99	0.0	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olvi3*	1.0	0.523	0.5	(1.0)
cmyn3*	0.0	0.477	0.5	(0.0)
olvi4*	1.0	0.523	0.5	1.0
cmyn4*	0.0	0.477	0.5	0.0

standard and adapted CIELAB

LAB*LAB	86.33	12.27	5.85
LAB*LABa	86.33	12.27	5.85
LAB*TCHa	75.0	13.59	25.48

relative CIELAB lab*

lab*lab	0.647	0.451	0.215
lab*tch	0.75	0.5	0.071
lab*nch	0.0	0.5	0.071

relative Natural Colour (NC)

lab*lrj	0.647	0.5	0.0
lab*tce	0.75	0.5	0.0
lab*nce	0.0	0.5	r00j

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	82.56	0.0	0.0
LAB*LABa	82.56	0.0	0.0
LAB*TCHa	50.0	0.0	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	0.023	0.0	(1.0)
cmyn3*	0.5	0.977	1.0	(0.0)
olvi4*	1.0	0.523	0.5	0.5
cmyn4*	0.0	0.477	0.5	0.5

standard and adapted CIELAB

LAB*LAB	73.47	12.27	5.84
LAB*LABa	73.47	12.27	5.84
LAB*TCHa	25.01	13.59	25.46

relative CIELAB lab*

lab*lab	0.147	0.451	0.215
lab*tch	0.25	0.5	0.071
lab*nch	0.5	0.5	0.071

relative Natural Colour (NC)

lab*lrj	0.147	0.5	0.0
lab*tce	0.25	0.5	1.0
lab*nce	0.5	0.5	b99r

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	69.7	0.0	0.0
LAB*LABa	69.7	0.0	0.0
LAB*TCHa	0.01	0.0	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

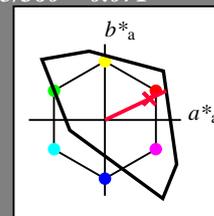
$n^* = 1.0$

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 25/360 = 0.071$
 lab^*tch and lab^*nch

D65: hue R
 LCH*Ma: 52 89 25
 olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olvi3*	1.0	0.5	0.606	(1.0)
cmyn3*	0.0	0.5	0.394	(0.0)
olvi4*	1.0	0.5	0.606	1.0
cmyn4*	0.0	0.5	0.394	0.0

standard and adapted CIELAB

LAB*LAB	73.67	40.3	19.2
LAB*LABa	73.67	40.3	19.2
LAB*TCHa	75.0	44.64	25.47

relative CIELAB lab*

lab*lab	0.772	0.451	0.215
lab*tch	0.75	0.5	0.071
lab*nch	0.0	0.5	0.071

relative Natural Colour (NC)

lab*lrj	0.772	0.5	0.0
lab*tce	0.75	0.5	1.0
lab*nce	0.0	0.5	b99r

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	0.0	0.106	(1.0)
cmyn3*	0.5	1.0	0.894	(0.0)
olvi4*	1.0	0.5	0.606	0.5
cmyn4*	0.0	0.5	0.394	0.5

standard and adapted CIELAB

LAB*LAB	25.98	40.3	19.21
LAB*LABa	25.98	40.3	19.21
LAB*TCHa	25.01	44.65	25.49

relative CIELAB lab*

lab*lab	0.272	0.451	0.215
lab*tch	0.25	0.5	0.071
lab*nch	0.5	0.5	0.071

relative Natural Colour (NC)

lab*lrj	0.272	0.5	0.0
lab*tce	0.25	0.5	0.0
lab*nce	0.5	0.5	r00j

$n^* = 0.00$

$n^* = 0.00$

blackness n^*

blackness n^*

chromaticness c^*

chromaticness c^*

$n^* = 1.0$

NE180-7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

BAM-test chart NE18; Colorimetric systems TLS70 & TLS00
 D65: 2 coordinate data of 3 step colour scales for 10 hues

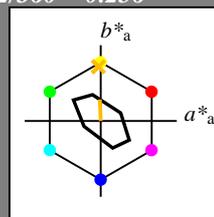
input: $olv^* setrgbcolor$
 output: no change compared to input

Input: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 92/360 = 0.256$
 lab^*tch and lab^*nch

D65: hue J
 LCH*Ma: 89 28 92
 olv*Ma: 1.0 0.74 0.0

triangle lightness t^*



TLS70; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	76.43	26.27	10.57	28.32	22
YMa	93.93	-10.76	34.63	36.27	107
LMa	89.32	-35.8	27.64	45.24	142
CMa	90.93	-21.95	-7.07	23.07	198
VMa	72.1	15.76	-35.63	38.97	294
MMa	78.5	37.52	-25.23	45.22	326
NMa	69.7	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 16$

%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

relative Inform. Technology (IT)				
olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi4*	1.0	1.0	1.0	1.0
cmyn4*	0.0	0.0	0.0	0.0

standard and adapted CIELAB

LAB*LAB	95.41	0.0	0.0
LAB*LABa	95.41	0.0	0.0
LAB*TCHa	99.99	0.0	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)				
olvi3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi4*	1.0	1.0	1.0	0.5
cmyn4*	0.0	0.0	0.0	0.5

standard and adapted CIELAB

LAB*LAB	82.56	0.0	0.0
LAB*LABa	82.56	0.0	0.0
LAB*TCHa	50.0	0.0	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)				
olvi3*	0.0	0.0	0.0	(1.0)
cmyn3*	1.0	1.0	1.0	(0.0)
olvi4*	1.0	1.0	1.0	0.0
cmyn4*	0.0	0.0	0.0	1.0

standard and adapted CIELAB

LAB*LAB	69.7	0.0	0.0
LAB*LABa	69.7	0.0	0.0
LAB*TCHa	0.01	0.0	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

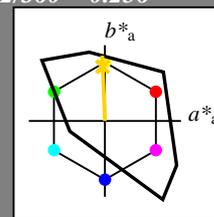
$n^* = 1.0$

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 92/360 = 0.256$
 lab^*tch and lab^*nch

D65: hue J
 LCH*Ma: 85 86 92
 olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



TLS00; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

relative Inform. Technology (IT)				
olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi4*	1.0	1.0	1.0	1.0
cmyn4*	0.0	0.0	0.0	0.0

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)				
olvi3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi4*	1.0	1.0	1.0	0.5
cmyn4*	0.0	0.0	0.0	0.5

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)				
olvi3*	0.0	0.0	0.0	(1.0)
cmyn3*	1.0	1.0	1.0	(0.0)
olvi4*	1.0	1.0	1.0	0.0
cmyn4*	0.0	0.0	0.0	1.0

standard and adapted CIELAB

LAB*LAB	0.03	0.0	0.0
LAB*LABa	0.03	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

$n^* = 1.0$

relative Inform. Technology (IT)				
olvi3*	1.0	0.87	0.5	(1.0)
cmyn3*	0.0	0.13	0.5	(0.0)
olvi4*	1.0	0.87	0.5	1.0
cmyn4*	0.0	0.13	0.5	0.0

standard and adapted CIELAB

LAB*LAB	92.4	-0.57	14.19
LAB*LABa	92.4	-0.57	14.19
LAB*TCHa	75.0	14.2	92.32

relative CIELAB lab*

lab*lab	0.883	-0.019	0.499
lab*tch	0.75	0.5	0.256
lab*nch	0.0	0.5	0.256

relative Natural Colour (NC)

lab*lrj	0.883	0.0	0.5
lab*tce	0.75	0.5	0.25
lab*nce	0.0	0.5	j00g

relative Inform. Technology (IT)				
olvi3*	0.5	0.37	0.0	(1.0)
cmyn3*	0.5	0.63	1.0	(0.0)
olvi4*	1.0	0.87	0.5	0.5
cmyn4*	0.0	0.13	0.5	0.5

standard and adapted CIELAB

LAB*LAB	79.54	-0.56	14.19
LAB*LABa	79.54	-0.56	14.19
LAB*TCHa	25.01	14.2	92.31

relative CIELAB lab*

lab*lab	0.383	-0.019	0.499
lab*tch	0.25	0.5	0.256
lab*nch	0.5	0.5	0.256

relative Natural Colour (NC)

lab*lrj	0.383	0.0	0.5
lab*tce	0.25	0.5	0.25
lab*nce	0.5	0.5	r9j

$n^* = 0.00$

blackness n^*

chromaticness c^*

relative Inform. Technology (IT)				
olvi3*	1.0	0.912	0.5	(1.0)
cmyn3*	0.0	0.088	0.5	(0.0)
olvi4*	1.0	0.912	0.5	1.0
cmyn4*	0.0	0.088	0.5	0.0

standard and adapted CIELAB

LAB*LAB	90.31	-1.74	43.06
LAB*LABa	90.31	-1.74	43.06
LAB*TCHa	75.0	43.09	92.32

relative CIELAB lab*

lab*lab	0.947	-0.019	0.499
lab*tch	0.75	0.5	0.256
lab*nch	0.0	0.5	0.256

relative Natural Colour (NC)

lab*lrj	0.947	0.0	0.5
lab*tce	0.75	0.5	0.25
lab*nce	0.0	0.5	j00g

relative Inform. Technology (IT)				
olvi3*	0.5	0.412	0.0	(1.0)
cmyn3*	0.5	0.588	1.0	(0.0)
olvi4*	1.0	0.912	0.5	0.5
cmyn4*	0.0	0.088	0.5	0.5

standard and adapted CIELAB

LAB*LAB	42.62	-1.73	43.05
LAB*LABa	42.62	-1.73	43.05
LAB*TCHa	25.01	43.09	92.31

relative CIELAB lab*

lab*lab	0.447	-0.019	0.499
lab*tch	0.25	0.5	0.256
lab*nch	0.5	0.5	0.256

relative Natural Colour (NC)

lab*lrj	0.447	0.0	0.5
lab*tce	0.25	0.5	0.25
lab*nce	0.5	0.5	r9j

$n^* = 0.00$

blackness n^*

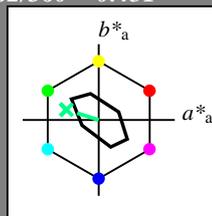
chromaticness c^*

Input: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 162/360 = 0.451$
 lab^*tch and lab^*nch

D65: hue G
 LCH*Ma: 90 30 162
 olv*Ma: 0.0 1.0 0.53

triangle lightness t^*



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	76.43	26.27	10.57	28.32	22
YMa	93.93	-10.76	34.63	36.27	107
LMa	89.32	-35.8	27.64	45.24	142
CMa	90.93	-21.95	-7.07	23.07	198
VMa	72.1	15.76	-35.63	38.97	294
MMa	78.5	37.52	-25.23	45.22	326
NMa	69.7	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 16$

%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	95.41	0.0	0.0
LAB*LABa	95.41	0.0	0.0
LAB*TCHa	99.99	0.0	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	1.0	0.767	(1.0)
cmyn3*	0.5	0.0	0.233	(0.0)
olvi4*	0.5	1.0	0.767	1.0
cmyn4*	0.5	0.0	0.233	0.0

standard and adapted CIELAB

LAB*LAB	92.79	-14.2	4.55
LAB*LABa	92.79	-14.2	4.55
LAB*TCHa	75.0	14.92	162.23

relative CIELAB lab*

lab*lab	0.898	-0.475	0.153
lab*tch	0.75	0.5	0.451
lab*nch	0.0	0.5	0.451

relative Natural Colour (NC)

lab*lrj	0.898	-0.499	0.0
lab*tce	0.75	0.5	0.5
lab*nce	0.0	0.5	g00b

standard and adapted CIELAB

LAB*LAB	90.18	-28.4	9.11
LAB*LABa	90.18	-28.4	9.11
LAB*TCHa	50.0	29.84	162.22

relative CIELAB lab*

lab*lab	0.796	-0.951	0.305
lab*tch	0.5	1.0	0.451
lab*nch	0.0	1.0	0.451

relative Natural Colour (NC)

lab*lrj	0.796	-0.999	0.0
lab*tce	0.5	1.0	0.5
lab*nce	0.0	1.0	g00b

relative Inform. Technology (IT)

olvi3*	0.0	0.5	0.267	(1.0)
cmyn3*	1.0	0.5	0.733	(0.0)
olvi4*	0.5	1.0	0.767	0.5
cmyn4*	0.5	0.0	0.233	0.5

standard and adapted CIELAB

LAB*LAB	79.94	-14.2	4.56
LAB*LABa	79.94	-14.2	4.56
LAB*TCHa	25.01	14.92	162.22

relative CIELAB lab*

lab*lab	0.398	-0.475	0.153
lab*tch	0.25	0.5	0.451
lab*nch	0.5	0.5	0.451

relative Natural Colour (NC)

lab*lrj	0.398	-0.499	0.0
lab*tce	0.25	0.5	0.5
lab*nce	0.5	0.5	g99g

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	69.7	0.0	0.0
LAB*LABa	69.7	0.0	0.0
LAB*TCHa	0.01	0.0	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

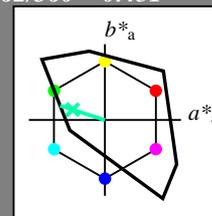
lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 162/360 = 0.451$
 lab^*tch and lab^*nch

D65: hue G
 LCH*Ma: 86 62 162
 olv*Ma: 0.0 1.0 0.65

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

olvi3*	0.5	1.0	0.826	(1.0)
cmyn3*	0.5	0.0	0.174	(0.0)
olvi4*	0.5	1.0	0.827	1.0
cmyn4*	0.5	0.0	0.173	0.0

standard and adapted CIELAB

LAB*LAB	90.57	-29.42	9.43
LAB*LABa	90.57	-29.42	9.43
LAB*TCHa	75.0	30.9	162.23

relative CIELAB lab*

lab*lab	0.949	-0.475	0.153
lab*tch	0.75	0.5	0.451
lab*nch	0.0	0.5	0.451

relative Natural Colour (NC)

lab*lrj	0.949	-0.499	0.0
lab*tce	0.75	0.5	0.5
lab*nce	0.0	0.5	g00b

standard and adapted CIELAB

LAB*LAB	90.57	-29.42	9.43
LAB*LABa	90.57	-29.42	9.43
LAB*TCHa	75.0	30.9	162.23

relative CIELAB lab*

lab*lab	0.949	-0.475	0.153
lab*tch	0.75	0.5	0.451
lab*nch	0.0	0.5	0.451

relative Natural Colour (NC)

lab*lrj	0.949	-0.499	0.0
lab*tce	0.75	0.5	0.5
lab*nce	0.0	0.5	g00b

relative Inform. Technology (IT)

olvi3*	0.0	0.5	0.326	(1.0)
cmyn3*	1.0	0.5	0.674	(0.0)
olvi4*	0.5	1.0	0.826	0.5
cmyn4*	0.5	0.0	0.174	0.5

standard and adapted CIELAB

LAB*LAB	42.88	-29.42	9.44
LAB*LABa	42.88	-29.42	9.44
LAB*TCHa	25.01	30.91	162.22

relative CIELAB lab*

lab*lab	0.449	-0.475	0.153
lab*tch	0.25	0.5	0.451
lab*nch	0.5	0.5	0.451

relative Natural Colour (NC)

lab*lrj	0.449	-0.499	0.0
lab*tce	0.25	0.5	0.5
lab*nce	0.5	0.5	g99g

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	0.03	0.0	0.0
LAB*LABa	0.03	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

relative Inform. Technology (IT)

olvi3*	0.0	1.0	0.653	(1.0)
cmyn3*	1.0	0.0	0.347	(0.0)
olvi4*	0.0	1.0	0.653	1.0
cmyn4*	1.0	0.0	0.347	0.0

standard and adapted CIELAB

LAB*LAB	85.74	-58.84	18.87
LAB*LABa	85.74	-58.84	18.87
LAB*TCHa	50.0	61.8	162.23

relative CIELAB lab*

lab*lab	0.899	-0.951	0.305
lab*tch	0.5	1.0	0.451
lab*nch	0.0	1.0	0.451

relative Natural Colour (NC)

lab*lrj	0.899	-0.999	0.0
lab*tce	0.5	1.0	0.5
lab*nce	0.0	1.0	g00b

relative Inform. Technology (IT)

olvi3*	0.0	0.5	0.326	(1.0)
cmyn3*	1.0	0.5	0.674	(0.0)
olvi4*	0.5	1.0	0.826	0.5
cmyn4*	0.5	0.0	0.174	0.5

standard and adapted CIELAB

LAB*LAB	42.88	-29.42	9.44
LAB*LABa	42.88	-29.42	9.44
LAB*TCHa	25.01	30.91	162.22

relative CIELAB lab*

lab*lab	0.449	-0.475	0.153
lab*tch	0.25	0.5	0.451
lab*nch	0.5	0.5	0.451

relative Natural Colour (NC)

lab*lrj	0.449	-0.499	0.0
lab*tce	0.25	0.5	0.5
lab*nce	0.5	0.5	g99g

$n^* = 0.00$

blackness n^*

$n^* = 0.50$

chromaticness c^*

$n^* = 1.0$

$n^* = 0.00$

blackness n^*

$n^* = 0.50$

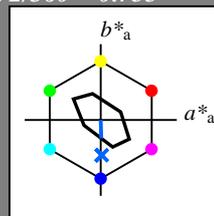
chromaticness c^*

Input: Colorimetric Television Luminous System TLS70

for hue $h^* = lab^*h = 272/360 = 0.755$
 lab^*tch and lab^*nch

D65: hue B
 LCH*Ma: 80 24 272
 olv*Ma: 0.0 0.4 1.0

triangle lightness t^*



TLS70; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	76.43	26.27	10.57	28.32	22
YMa	93.93	-10.76	34.63	36.27	107
LMa	89.32	-35.8	27.64	45.24	142
CMa	90.93	-21.95	-7.07	23.07	198
VMa	72.1	15.76	-35.63	38.97	294
MMa	78.5	37.52	-25.23	45.22	326
NMa	69.7	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 16$

%Regularity

$g^*_{H,rel} = 34$

$g^*_{C,rel} = 51$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	95.41	0.0	0.0
LAB*LABa	95.41	0.0	0.0
LAB*TCHa	99.99	0.0	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	87.5	0.37	-12.12
LAB*LABa	87.5	0.37	-12.12
LAB*TCHa	75.0	12.13	271.73

relative CIELAB lab*

lab*lab	0.693	0.015	-0.499
lab*tch	0.75	0.5	0.755
lab*nch	0.0	0.5	0.755

relative Natural Colour (NC)

lab*lrj	0.693	0.0	-0.499
lab*tce	0.75	0.5	0.75
lab*nce	0.0	0.5	g99b

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	69.7	0.0	0.0
LAB*LABa	69.7	0.0	0.0
LAB*TCHa	0.01	0.0	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

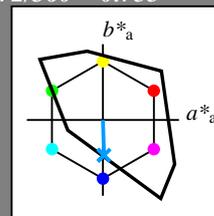
$n^* = 1.0$

Output: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 272/360 = 0.755$
 lab^*tch and lab^*nch

D65: hue B
 LCH*Ma: 65 49 272
 olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	79.6	0.74	-24.25
LAB*LABa	79.6	0.74	-24.25
LAB*TCHa	50.0	24.27	271.74

relative CIELAB lab*

lab*lab	0.385	0.03	-0.998
lab*tch	0.5	1.0	0.755
lab*nch	0.0	1.0	0.755

relative Natural Colour (NC)

lab*lrj	0.385	0.0	-0.999
lab*tce	0.5	1.0	0.75
lab*nce	0.0	1.0	b00r

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	0.03	0.0	0.0
LAB*LABa	0.03	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

$n^* = 1.0$

relative Inform. Technology (IT)

olvi3*	0.5	0.699	1.0	(1.0)
cmyn3*	0.5	0.301	0.0	(0.0)
olvi4*	0.5	0.699	1.0	1.0
cmyn4*	0.5	0.301	0.0	0.0

standard and adapted CIELAB

LAB*LAB	87.5	0.37	-12.12
LAB*LABa	87.5	0.37	-12.12
LAB*TCHa	75.0	12.13	271.73

relative CIELAB lab*

lab*lab	0.693	0.015	-0.499
lab*tch	0.75	0.5	0.755
lab*nch	0.0	0.5	0.755

relative Natural Colour (NC)

lab*lrj	0.693	0.0	-0.499
lab*tce	0.75	0.5	0.75
lab*nce	0.0	0.5	g99b

relative Inform. Technology (IT)

olvi3*	0.0	0.199	0.5	(1.0)
cmyn3*	1.0	0.801	0.5	(0.0)
olvi4*	0.5	0.699	1.0	0.5
cmyn4*	0.5	0.301	0.0	0.5

standard and adapted CIELAB

LAB*LAB	74.65	0.37	-12.12
LAB*LABa	74.65	0.37	-12.12
LAB*TCHa	25.01	12.14	271.75

relative CIELAB lab*

lab*lab	0.193	0.015	-0.499
lab*tch	0.25	0.5	0.755
lab*nch	0.5	0.5	0.755

relative Natural Colour (NC)

lab*lrj	0.193	0.0	-0.499
lab*tce	0.25	0.5	0.75
lab*nce	0.5	0.5	b00r

$n^* = 0.50$

relative Inform. Technology (IT)

olvi3*	0.0	0.398	1.0	(1.0)
cmyn3*	1.0	0.602	0.0	(0.0)
olvi4*	0.0	0.398	1.0	1.0
cmyn4*	1.0	0.602	0.0	0.0

standard and adapted CIELAB

LAB*LAB	79.6	0.74	-24.25
LAB*LABa	79.6	0.74	-24.25
LAB*TCHa	50.0	24.27	271.74

relative CIELAB lab*

lab*lab	0.385	0.03	-0.998
lab*tch	0.5	1.0	0.755
lab*nch	0.0	1.0	0.755

relative Natural Colour (NC)

lab*lrj	0.385	0.0	-0.999
lab*tce	0.5	1.0	0.75
lab*nce	0.0	1.0	b00r

$n^* = 0.00$

blackness n^*

chromaticness c^*

relative Inform. Technology (IT)

olvi3*	0.5	0.805	1.0	(1.0)
cmyn3*	0.5	0.195	0.0	(0.0)
olvi4*	0.5	0.805	1.0	1.0
cmyn4*	0.5	0.195	0.0	0.0

standard and adapted CIELAB

LAB*LAB	80.13	0.73	-24.31
LAB*LABa	80.13	0.73	-24.31
LAB*TCHa	75.0	24.33	271.72

relative CIELAB lab*

lab*lab	0.84	0.015	-0.499
lab*tch	0.75	0.5	0.755
lab*nch	0.0	0.5	0.755

relative Natural Colour (NC)

lab*lrj	0.84	0.0	-0.499
lab*tce	0.75	0.5	0.75
lab*nce	0.0	0.5	g99b

relative Inform. Technology (IT)

olvi3*	0.0	0.305	0.5	(1.0)
cmyn3*	1.0	0.695	0.5	(0.0)
olvi4*	0.5	0.805	1.0	0.5
cmyn4*	0.5	0.195	0.0	0.5

standard and adapted CIELAB

LAB*LAB	32.44	0.74	-24.32
LAB*LABa	32.44	0.74	-24.32
LAB*TCHa	25.01	24.34	271.75

relative CIELAB lab*

lab*lab	0.34	0.015	-0.499
lab*tch	0.25	0.5	0.755
lab*nch	0.5	0.5	0.755

relative Natural Colour (NC)

lab*lrj	0.34	0.0	-0.499
lab*tce	0.25	0.5	0.75
lab*nce	0.5	0.5	b00r

$n^* = 0.50$

blackness n^*

chromaticness c^*