

Input: Colorimetric Natural Reflective System CNS18

for hue $h^* = lab^*h = 25/360 = 0.069$

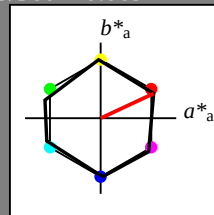
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 57 77 25

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 59$

$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.15	32.71	77.4	25
JMa	56.7	-2.69	77.35	77.4	92
GMa	56.7	-73.6	23.92	77.4	162
G50BMa	56.7	-71.24	-30.23	77.4	203
BMa	56.7	2.7	-77.34	77.4	272
B50RMa	56.7	63.4	-44.38	77.4	325
NMa	18.01	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

Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 25/360 = 0.069$

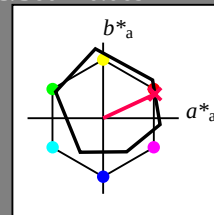
lab^*tch and lab^*nch

D65: hue O

LCH*Ma: 48 76 25

olv*Ma: 1.0 0.0 0.32

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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 -0.98 4.75
LAB*LABa 95.41 0.0 0.0
LAB*TCa 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 56.71 -0.24 2.14
LAB*LABa 56.71 0.0 0.0
LAB*TCa 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 18.02 0.5 -0.47
LAB*LABa 18.02 0.0 0.0
LAB*TCa 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* 1.0 0.5 0.658 (1.0)
cmyn3* 0.0 0.5 0.342 (0.0)
olvi4* 1.0 0.5 0.658 1.0
cmyn4* 0.0 0.5 0.342 0.0

standard and adapted CIELAB
LAB*LAB 71.7 33.71 19.13
LAB*LABa 71.7 34.25 15.97
LAB*TCa 75.0 37.79 25.0

relative CIELAB lab*
lab*lab 0.694 0.453 0.211
lab*tch 0.75 0.5 0.069
lab*nch 0.0 0.5 0.069

relative Natural Colour (NC)
lab*lrj 0.694 0.5 0.003
lab*tce 0.75 0.5 0.001
lab*nce 0.0 0.5 r00j

relative Inform. Technology (IT)
olvi3* 0.5 0.0 0.158 (1.0)
cmyn3* 0.5 1.0 0.842 (0.0)
olvi4* 1.0 0.5 0.658 0.5
cmyn4* 0.0 0.5 0.342 0.5

standard and adapted CIELAB
LAB*LAB 33.01 34.46 16.52
LAB*LABa 33.01 34.25 15.97
LAB*TCa 25.01 37.79 25.01

relative CIELAB lab*
lab*lab 0.194 0.453 0.211
lab*tch 0.25 0.5 0.069
lab*nch 0.5 0.5 0.069

relative Natural Colour (NC)
lab*lrj 0.194 0.5 0.004
lab*tce 0.25 0.5 0.001
lab*nce 0.5 0.5 r00j

relative Inform. Technology (IT)
olvi3* 1.0 0.0 0.315 (1.0)
cmyn3* 0.0 1.0 0.685 (0.0)
olvi4* 1.0 0.0 0.316 1.0
cmyn4* 0.0 1.0 0.684 0.0

standard and adapted CIELAB
LAB*LAB 48.0 68.42 33.5
LAB*LABa 48.0 68.49 31.94
LAB*TCa 50.0 75.57 25.0

relative CIELAB lab*
lab*lab 0.387 0.906 0.423
lab*tch 0.5 1.0 0.069
lab*nch 0.0 1.0 0.069

relative Natural Colour (NC)
lab*lrj 0.387 1.0 0.007
lab*tce 0.5 1.0 0.001
lab*nce 0.0 1.0 r00j

relative Inform. Technology (IT)
olvi3* 0.5 0.0 0.158 (1.0)
cmyn3* 0.5 1.0 0.842 (0.0)
olvi4* 1.0 0.5 0.658 0.5
cmyn4* 0.0 0.5 0.342 0.5

standard and adapted CIELAB
LAB*LAB 33.01 34.46 16.52
LAB*LABa 33.01 34.25 15.97
LAB*TCa 25.01 37.79 25.01

relative CIELAB lab*
lab*lab 0.194 0.453 0.211
lab*tch 0.25 0.5 0.069
lab*nch 0.5 0.5 0.069

relative Natural Colour (NC)
lab*lrj 0.194 0.5 0.004
lab*tce 0.25 0.5 0.001
lab*nce 0.5 0.5 r00j

relative Inform. Technology (IT)
olvi3* 1.0 0.0 0.315 (1.0)
cmyn3* 0.0 1.0 0.685 (0.0)
olvi4* 1.0 0.0 0.316 1.0
cmyn4* 0.0 1.0 0.684 0.0

standard and adapted CIELAB
LAB*LAB 48.0 68.42 33.5
LAB*LABa 48.0 68.49 31.94
LAB*TCa 50.0 75.57 25.0

relative CIELAB lab*
lab*lab 0.387 0.906 0.423
lab*tch 0.5 1.0 0.069
lab*nch 0.0 1.0 0.069

relative Natural Colour (NC)
lab*lrj 0.387 1.0 0.007
lab*tce 0.5 1.0 0.001
lab*nce 0.0 1.0 r00j

VE400-7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

BAM-test chart VE40; Colorimetric systems CNS18 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: olv* setrgbcolor

output: olv*' (TRI9) setrgbcolor

Input: Colorimetric Natural Reflective System CNS18

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

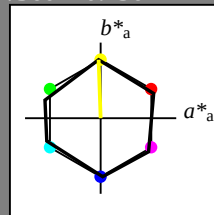
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 57 77 92

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 59$

$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.15	32.71	77.4	25
JMa	56.7	-2.69	77.35	77.4	92
GMa	56.7	-73.6	23.92	77.4	162
G50BMa	56.7	-71.24	-30.23	77.4	203
BMa	56.7	2.7	-77.34	77.4	272
B50RMa	56.7	63.4	-44.38	77.4	325
NMa	18.01	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

Output: Colorimetric Offset Reflective System ORS18

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

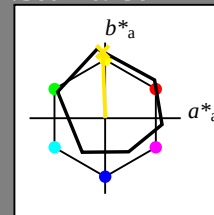
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 86 88 92

olv*Ma: 1.0 0.9 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

relative Inform. Technology (IT)
olvi3* 1.0 0.952 0.5 (1.0)
cmyn3* 0.0 0.048 0.5 (0.0)
olvi4* 1.0 0.953 0.5 1.0
cmyn4* 0.0 0.047 0.5 0.0

standard and adapted CIELAB
LAB*LAB 95.41 -0.98 4.75
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 0.452 0.0 (1.0)
cmyn3* 0.5 0.548 1.0 (0.0)
olvi4* 1.0 0.952 0.5 0.5
cmyn4* 0.0 0.048 0.5 0.5

standard and adapted CIELAB
LAB*LAB 52.17 -1.68 45.74
LAB*LABa 52.17 -1.52 43.9
LAB*TCHa 25.01 43.93 92.0

relative CIELAB lab*
lab*lab 0.441 -0.016 0.5
lab*tch 0.25 0.5 0.256
lab*nch 0.5 0.5 0.256

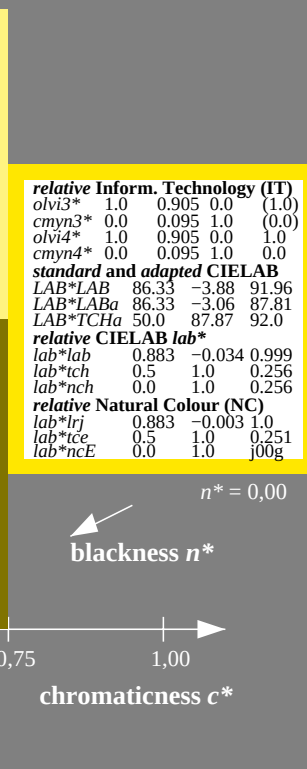
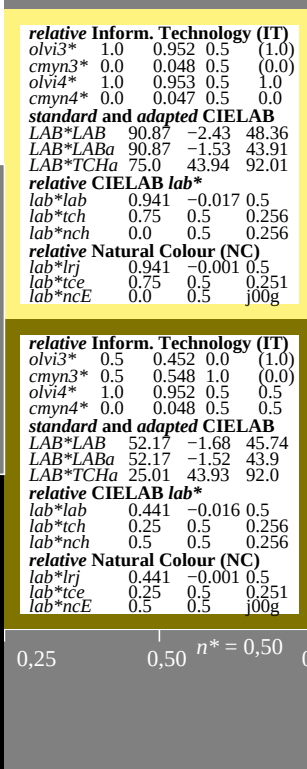
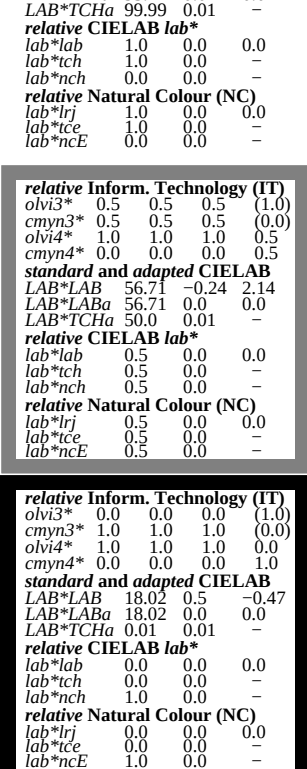
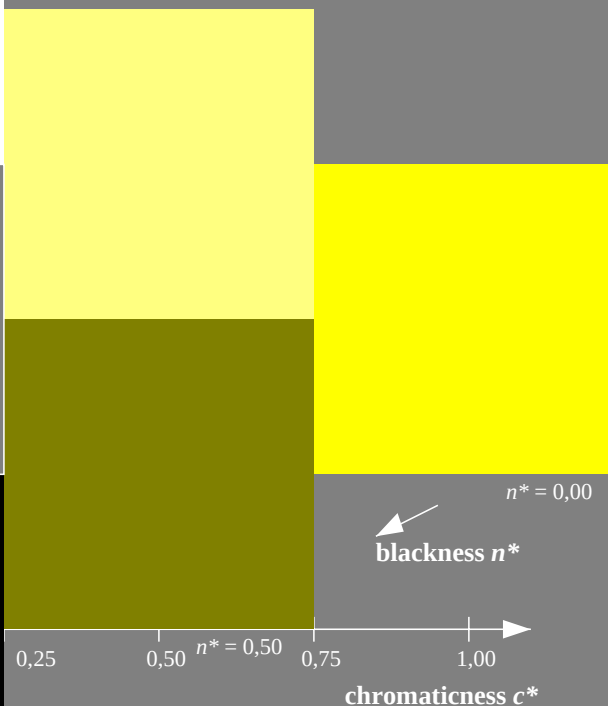
relative Natural Colour (NC)
lab*lrj 0.441 -0.001 0.5
lab*tce 0.25 0.5 0.251
lab*nce 0.5 0.5 0.00g

relative Inform. Technology (IT)
olvi3* 1.0 0.905 0.0 (1.0)
cmyn3* 0.0 0.095 1.0 (0.0)
olvi4* 1.0 0.905 0.0 1.0
cmyn4* 0.0 0.095 1.0 0.0

standard and adapted CIELAB
LAB*LAB 86.33 -3.88 91.96
LAB*LABa 86.33 -3.06 87.81
LAB*TCHa 50.0 87.87 92.0

relative CIELAB lab*
lab*lab 0.883 -0.034 0.999
lab*tch 0.5 1.0 0.256
lab*nch 0.0 1.0 0.256

relative Natural Colour (NC)
lab*lrj 0.883 -0.003 1.0
lab*tce 0.5 1.0 0.251
lab*nce 0.0 1.0 0.00g



VE400-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

BAM-test chart VE40; Colorimetric systems CNS18 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: olv* setrgbcolor

output: olv*' (TRI9) setrgbcolor

Input: Colorimetric Natural Reflective System CNS18

for hue $h^* = lab^*h = 162/360 = 0.45$

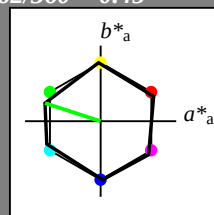
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 57 77 162

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 59$

$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.15	32.71	77.4	25
JMa	56.7	-2.69	77.35	77.4	92
GMa	56.7	-73.6	23.92	77.4	162
G50BMa	56.7	-71.24	-30.23	77.4	203
BMa	56.7	2.7	-77.34	77.4	272
B50RMa	56.7	63.4	-44.38	77.4	325
NMa	18.01	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

Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 162/360 = 0.45$

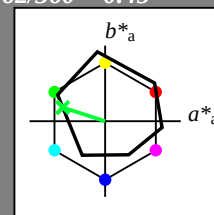
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 53 59 162

olv*Ma: 0.0 1.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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 -0.98 4.75
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 56.71 -0.24 2.14
LAB*LABa 56.71 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 18.02 0.5 -0.47
LAB*LABa 18.02 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* 0.5 1.0 0.605 (1.0)
cmyn3* 0.5 0.0 0.395 (0.0)
olvi4* 0.5 1.0 0.605 1.0
cmyn4* 0.5 0.0 0.395 0.0

standard and adapted CIELAB
LAB*LAB 73.96 -28.58 12.41
LAB*LABa 73.96 -28.0 9.1
LAB*TCHa 75.0 29.45 162.0

relative CIELAB lab*
lab*lab 0.723 -0.474 0.154
lab*tch 0.75 0.5 0.45
lab*nch 0.0 0.5 0.45

relative Natural Colour (NC)
lab*lrj 0.723 -0.498 0.026
lab*tce 0.75 0.5 0.492
lab*nce 0.0 0.5 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.105 (1.0)
cmyn3* 1.0 0.5 0.895 (0.0)
olvi4* 0.5 1.0 0.605 0.5
cmyn4* 0.5 0.0 0.395 0.5

standard and adapted CIELAB
LAB*LAB 35.27 -27.84 9.8
LAB*LABa 35.27 -28.0 9.11
LAB*TCHa 25.01 29.46 161.99

relative CIELAB lab*
lab*lab 0.223 -0.474 0.155
lab*tch 0.25 0.5 0.45
lab*nch 0.5 0.5 0.45

relative Natural Colour (NC)
lab*lrj 0.223 -0.498 0.027
lab*tce 0.25 0.5 0.492
lab*nce 0.5 0.5 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.209 (1.0)
cmyn3* 1.0 0.0 0.791 (0.0)
olvi4* 0.0 1.0 0.21 1.0
cmyn4* 1.0 0.0 0.79 0.0

standard and adapted CIELAB
LAB*LAB 52.52 -56.18 20.07
LAB*LABa 52.52 -56.01 18.21
LAB*TCHa 50.0 58.91 162.0

relative CIELAB lab*
lab*lab 0.446 -0.95 0.309
lab*tch 0.5 1.0 0.45
lab*nch 0.0 1.0 0.45

relative Natural Colour (NC)
lab*lrj 0.446 -0.997 0.053
lab*tce 0.5 1.0 0.492
lab*nce 0.0 1.0 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.105 (1.0)
cmyn3* 1.0 0.5 0.895 (0.0)
olvi4* 0.5 1.0 0.605 0.5
cmyn4* 0.5 0.0 0.395 0.5

standard and adapted CIELAB
LAB*LAB 35.27 -27.84 9.8
LAB*LABa 35.27 -28.0 9.11
LAB*TCHa 25.01 29.46 161.99

relative CIELAB lab*
lab*lab 0.223 -0.474 0.155
lab*tch 0.25 0.5 0.45
lab*nch 0.5 0.5 0.45

relative Natural Colour (NC)
lab*lrj 0.223 -0.498 0.027
lab*tce 0.25 0.5 0.492
lab*nce 0.5 0.5 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.209 (1.0)
cmyn3* 1.0 0.0 0.791 (0.0)
olvi4* 0.0 1.0 0.21 1.0
cmyn4* 1.0 0.0 0.79 0.0

standard and adapted CIELAB
LAB*LAB 52.52 -56.18 20.07
LAB*LABa 52.52 -56.01 18.21
LAB*TCHa 50.0 58.91 162.0

relative CIELAB lab*
lab*lab 0.446 -0.95 0.309
lab*tch 0.5 1.0 0.45
lab*nch 0.0 1.0 0.45

relative Natural Colour (NC)
lab*lrj 0.446 -0.997 0.053
lab*tce 0.5 1.0 0.492
lab*nce 0.0 1.0 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.105 (1.0)
cmyn3* 1.0 0.5 0.895 (0.0)
olvi4* 0.5 1.0 0.605 0.5
cmyn4* 0.5 0.0 0.395 0.5

standard and adapted CIELAB
LAB*LAB 35.27 -27.84 9.8
LAB*LABa 35.27 -28.0 9.11
LAB*TCHa 25.01 29.46 161.99

relative CIELAB lab*
lab*lab 0.223 -0.474 0.155
lab*tch 0.25 0.5 0.45
lab*nch 0.5 0.5 0.45

relative Natural Colour (NC)
lab*lrj 0.223 -0.498 0.027
lab*tce 0.25 0.5 0.492
lab*nce 0.5 0.5 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.209 (1.0)
cmyn3* 1.0 0.0 0.791 (0.0)
olvi4* 0.0 1.0 0.21 1.0
cmyn4* 1.0 0.0 0.79 0.0

standard and adapted CIELAB
LAB*LAB 52.52 -56.18 20.07
LAB*LABa 52.52 -56.01 18.21
LAB*TCHa 50.0 58.91 162.0

relative CIELAB lab*
lab*lab 0.446 -0.95 0.309
lab*tch 0.5 1.0 0.45
lab*nch 0.0 1.0 0.45

relative Natural Colour (NC)
lab*lrj 0.446 -0.997 0.053
lab*tce 0.5 1.0 0.492
lab*nce 0.0 1.0 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.105 (1.0)
cmyn3* 1.0 0.5 0.895 (0.0)
olvi4* 0.5 1.0 0.605 0.5
cmyn4* 0.5 0.0 0.395 0.5

standard and adapted CIELAB
LAB*LAB 35.27 -27.84 9.8
LAB*LABa 35.27 -28.0 9.11
LAB*TCHa 25.01 29.46 161.99

relative CIELAB lab*
lab*lab 0.223 -0.474 0.155
lab*tch 0.25 0.5 0.45
lab*nch 0.5 0.5 0.45

relative Natural Colour (NC)
lab*lrj 0.223 -0.498 0.027
lab*tce 0.25 0.5 0.492
lab*nce 0.5 0.5 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.209 (1.0)
cmyn3* 1.0 0.0 0.791 (0.0)
olvi4* 0.0 1.0 0.21 1.0
cmyn4* 1.0 0.0 0.79 0.0

standard and adapted CIELAB
LAB*LAB 52.52 -56.18 20.07
LAB*LABa 52.52 -56.01 18.21
LAB*TCHa 50.0 58.91 162.0

relative CIELAB lab*
lab*lab 0.446 -0.95 0.309
lab*tch 0.5 1.0 0.45
lab*nch 0.0 1.0 0.45

relative Natural Colour (NC)
lab*lrj 0.446 -0.997 0.053
lab*tce 0.5 1.0 0.492
lab*nce 0.0 1.0 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.105 (1.0)
cmyn3* 1.0 0.5 0.895 (0.0)
olvi4* 0.5 1.0 0.605 0.5
cmyn4* 0.5 0.0 0.395 0.5

standard and adapted CIELAB
LAB*LAB 35.27 -27.84 9.8
LAB*LABa 35.27 -28.0 9.11
LAB*TCHa 25.01 29.46 161.99

relative CIELAB lab*
lab*lab 0.223 -0.474 0.155
lab*tch 0.25 0.5 0.45
lab*nch 0.5 0.5 0.45

relative Natural Colour (NC)
lab*lrj 0.223 -0.498 0.027
lab*tce 0.25 0.5 0.492
lab*nce 0.5 0.5 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.209 (1.0)
cmyn3* 1.0 0.0 0.791 (0.0)
olvi4* 0.0 1.0 0.21 1.0
cmyn4* 1.0 0.0 0.79 0.0

standard and adapted CIELAB
LAB*LAB 52.52 -56.18 20.07
LAB*LABa 52.52 -56.01 18.21
LAB*TCHa 50.0 58.91 162.0

relative CIELAB lab*
lab*lab 0.446 -0.95 0.309
lab*tch 0.5 1.0 0.45
lab*nch 0.0 1.0 0.45

relative Natural Colour (NC)
lab*lrj 0.446 -0.997 0.053
lab*tce 0.5 1.0 0.492
lab*nce 0.0 1.0 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.105 (1.0)
cmyn3* 1.0 0.5 0.895 (0.0)
olvi4* 0.5 1.0 0.605 0.5
cmyn4* 0.5 0.0 0.395 0.5

standard and adapted CIELAB
LAB*LAB 35.27 -27.84 9.8
LAB*LABa 35.27 -28.0 9.11
LAB*TCHa 25.01 29.46 161.99

relative CIELAB lab*
lab*lab 0.223 -0.474 0.155
lab*tch 0.25 0.5 0.45
lab*nch 0.5 0.5 0.45

relative Natural Colour (NC)
lab*lrj 0.223 -0.498 0.027
lab*tce 0.25 0.5 0.492
lab*nce 0.5 0.5 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.209 (1.0)
cmyn3* 1.0 0.0 0.791 (0.0)
olvi4* 0.0 1.0 0.21 1.0
cmyn4* 1.0 0.0 0.79 0.0

standard and adapted CIELAB
LAB*LAB 52.52 -56.18 20.07
LAB*LABa 52.52 -56.01 18.21
LAB*TCHa 50.0 58.91 162.0

relative CIELAB lab*
lab*lab 0.446 -0.95 0.309
lab*tch 0.5 1.0 0.45
lab*nch 0.0 1.0 0.45

relative Natural Colour (NC)
lab*lrj 0.446 -0.997 0.053
lab*tce 0.5 1.0 0.492
lab*nce 0.0 1.0 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.105 (1.0)
cmyn3* 1.0 0.5 0.895 (0.0)
olvi4* 0.5 1.0 0.605 0.5
cmyn4* 0.5 0.0 0.395 0.5

standard and adapted CIELAB
LAB*LAB 35.27 -27.84 9.8
LAB*LABa 35.27 -28.0 9.11
LAB*TCHa 25.01 29.46 161.99

relative CIELAB lab*
lab*lab 0.223 -0.474 0.155
lab*tch 0.25 0.5 0.45
lab*nch 0.5 0.5 0.45

relative Natural Colour (NC)
lab*lrj 0.223 -0.498 0.027
lab*tce 0.25 0.5 0.492
lab*nce 0.5 0.5 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.209 (1.0)
cmyn3* 1.0 0.0 0.791 (0.0)
olvi4* 0.0 1.0 0.21 1.0
cmyn4* 1.0 0.0 0.79 0.0

standard and adapted CIELAB
LAB*LAB 52.52 -56.18 20.07
LAB*LABa 52.52 -56.01 18.21
LAB*TCHa 50.0 58.91 162.0

relative CIELAB lab*
lab*lab 0.446 -0.95 0.309
lab*tch 0.5 1.0 0.45
lab*nch 0.0 1.0 0.45

relative Natural Colour (NC)
lab*lrj 0.446 -0.997 0.053
lab*tce 0.5 1.0 0.492
lab*nce 0.0 1.0 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.105 (1.0)
cmyn3* 1.0 0.5 0.895 (0.0)
olvi4* 0.5 1.0 0.605 0.5
cmyn4* 0.5 0.0 0.395 0.5

standard and adapted CIELAB
LAB*LAB 35.27 -27.84 9.8
LAB*LABa 35.27 -28.0 9.11
LAB*TCHa 25.01 29.46 161.99

relative CIELAB lab*
lab*lab 0.223 -0.474 0.155
lab*tch 0.25 0.5 0.45
lab*nch 0.5 0.5 0.45

relative Natural Colour (NC)
lab*lrj 0.223 -0.498 0.027
lab*tce 0.25 0.5 0.492
lab*nce 0.5 0.5 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.209 (1.0)
cmyn3* 1.0 0.0 0.791 (0.0)
olvi4* 0.0 1.0 0.21 1.0
cmyn4* 1.0 0.0 0.79 0.0

standard and adapted CIELAB
LAB*LAB 52.52 -56.18 20.07
LAB*LABa 52.52 -56.01 18.21
LAB*TCHa 50.0 58.91 162.0

relative CIELAB lab*
lab*lab 0.446 -0.95 0.309
lab*tch 0.5 1.0 0.45
lab*nch 0.0 1.0 0.45

relative Natural Colour (NC)
lab*lrj 0.446 -0.997 0.053
lab*tce 0.5 1.0 0.492
lab*nce 0.0 1.0 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.105 (1.0)
cmyn3* 1.0 0.5 0.895 (0.0)
olvi4* 0.5 1.0 0.605 0.5
cmyn4* 0.5 0.0 0.395 0.5

standard and adapted CIELAB
LAB*LAB 35.27 -27.84 9.8
LAB*LABa 35.27 -28.0 9.11
LAB*TCHa 25.01 29.46 161.99

relative CIELAB lab*
lab*lab 0.223 -0.474 0.155
lab*tch 0.25 0.5 0.45
lab*nch 0.5 0.5 0.45

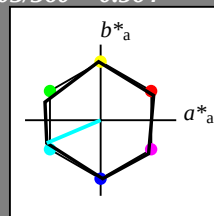
relative Natural Colour (NC)
lab*lrj 0.223 -0.498 0.027
lab*tce 0.25 0.5 0.492
lab*nce 0.5 0.5 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.209 (1.0)
cmyn3* 1.0 0.0 0.791 (0.0)
olvi4* 0.0 1.0 0.21 1.0
cmyn4* 1.0 0.0 0.79 0.0

Input: Colorimetric Natural Reflective System CNS18

for hue $h^* = lab^*h = 203/360 = 0.564$
 lab^*tch and lab^*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0
triangle lightness t^*



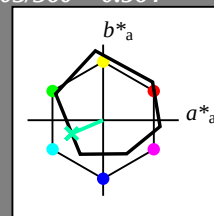
%Gamut
 $u^*_{rel} = 100$
%Regularity
 $g^*_{H,rel} = 59$
 $g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.15	32.71	77.4	25
JMa	56.7	-2.69	77.35	77.4	92
GMa	56.7	-73.6	23.92	77.4	162
G50BMa	56.7	-71.24	-30.23	77.4	203
BMa	56.7	2.7	-77.34	77.4	272
B50RMa	56.7	63.4	-44.38	77.4	325
NMa	18.01	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

Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 203/360 = 0.564$
 lab^*tch and lab^*nch

D65: hue C
LCH*Ma: 56 45 203
olv*Ma: 0.0 1.0 0.66
triangle lightness t^*



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

ORS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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	-0.98	4.75		
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	-		

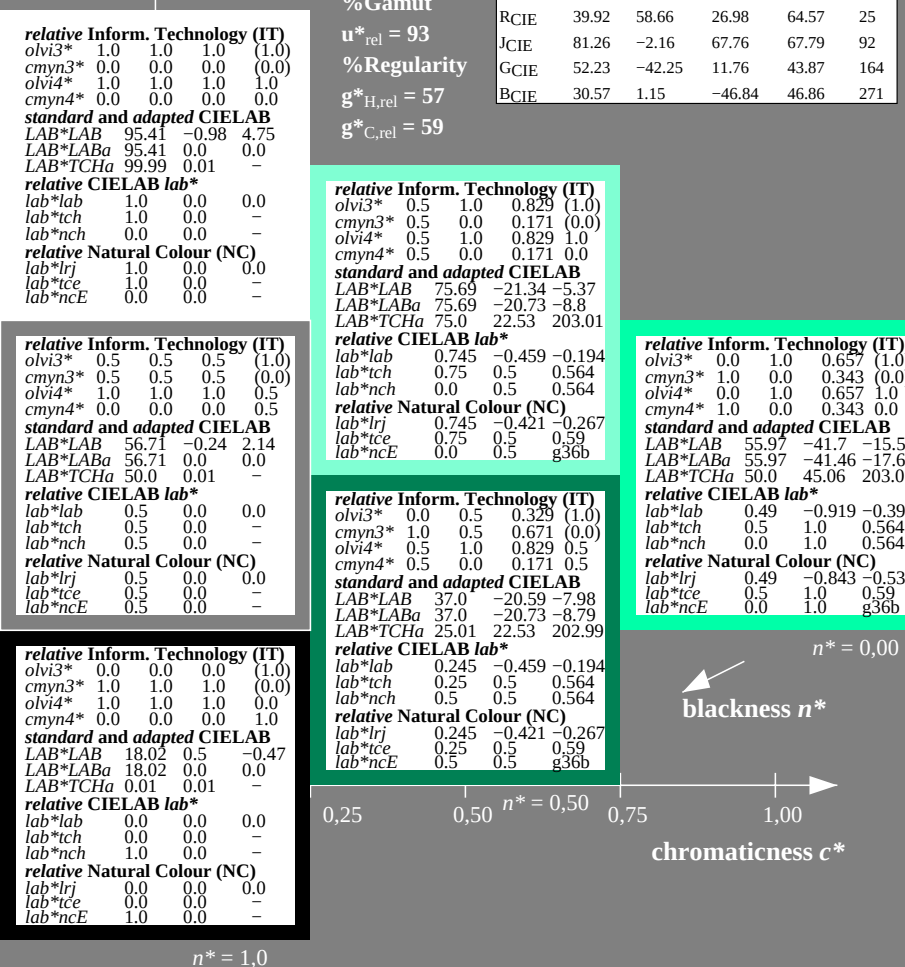
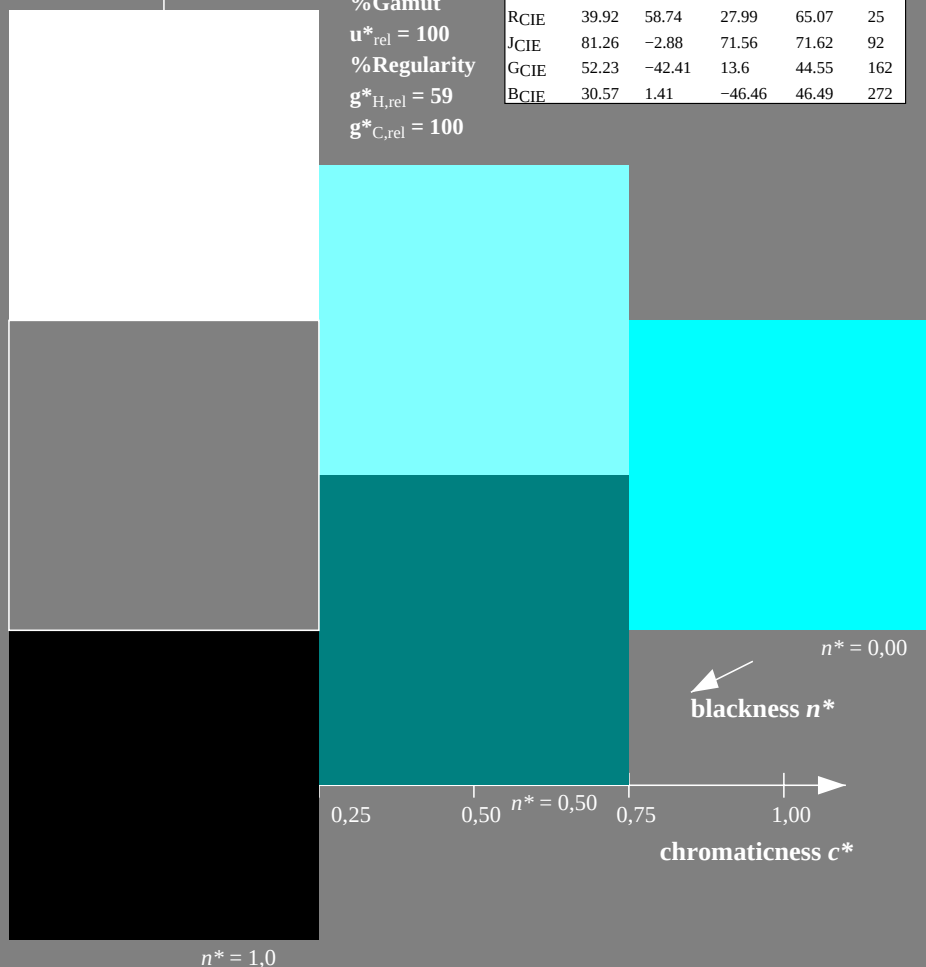
relative Inform. Technology (IT)					
olvi3*	0.5	1.0	0.829	(1.0)	
cmyn3*	0.5	0.0	0.171	(0.0)	
olvi4*	0.5	1.0	0.829	1.0	
cmyn4*	0.5	0.0	0.171	0.0	
standard and adapted CIELAB					
LAB*LAB	75.69	-21.34	-5.37		
LAB*LABa	75.69	-20.73	-8.8		
LAB*TCHa	75.0	22.53	203.01		
relative CIELAB lab*					
lab*lab	0.745	-0.459	-0.194		
lab*tch	0.75	0.5	0.564		
lab*nch	0.0	0.5	0.564		
relative Natural Colour (NC)					
lab*lrj	0.745	-0.421	-0.267		
lab*tce	0.75	0.5	0.59		
lab*nce	0.0	0.5	g36b		

relative Inform. Technology (IT)					
olvi3*	0.0	1.0	0.657	(1.0)	
cmyn3*	1.0	0.0	0.343	(0.0)	
olvi4*	0.0	1.0	0.657	1.0	
cmyn4*	1.0	0.0	0.343	0.0	
standard and adapted CIELAB					
LAB*LAB	55.97	-41.7	-15.5		
LAB*LABa	55.97	-41.46	-17.6		
LAB*TCHa	50.0	45.06	203.0		
relative CIELAB lab*					
lab*lab	0.49	-0.919	-0.39		
lab*tch	0.5	1.0	0.564		
lab*nch	0.0	1.0	0.564		
relative Natural Colour (NC)					
lab*lrj	0.49	-0.843	-0.535		
lab*tce	0.5	1.0	0.59		
lab*nce	0.0	1.0	g36b		

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	56.71	-0.24	2.14		
LAB*LABa	56.71	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	0.329	(1.0)	
cmyn3*	1.0	0.5	0.671	(0.0)	
olvi4*	0.5	1.0	0.829	0.5	
cmyn4*	0.5	0.0	0.171	0.5	
standard and adapted CIELAB					
LAB*LAB	37.0	-20.59	-7.98		
LAB*LABa	37.0	-20.73	-8.79		
LAB*TCHa	25.01	22.53	202.99		
relative CIELAB lab*					
lab*lab	0.245	-0.459	-0.194		
lab*tch	0.25	0.5	0.564		
lab*nch	0.5	0.5	0.564		
relative Natural Colour (NC)					
lab*lrj	0.245	-0.421	-0.267		
lab*tce	0.25	0.5	0.59		
lab*nce	0.5	0.5	g36b		

relative Inform. Technology (IT)					
olvi3*	0.0	1.0	0.657	(1.0)	
cmyn3*	1.0	0.0	0.343	(0.0)	
olvi4*	0.0	1.0	0.657	1.0	
cmyn4*	1.0	0.0	0.343	0.0	
standard and adapted CIELAB					
LAB*LAB	55.97	-41.7	-15.5		
LAB*LABa	55.97	-41.46	-17.6		
LAB*TCHa	50.0	45.06	203.0		
relative CIELAB lab*					
lab*lab	0.49	-0.919	-0.39		
lab*tch	0.5	1.0	0.564		
lab*nch	0.0	1.0	0.564		
relative Natural Colour (NC)					
lab*lrj	0.49	-0.843	-0.535		
lab*tce	0.5	1.0	0.59		
lab*nce	0.0	1.0	g36b		



VE400-7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

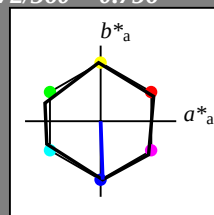
BAM-test chart VE40; Colorimetric systems CNS18 & ORS18
D65: 3 step colour scales and coordinate data for 10 hues

input: olv* setrgbcolor
output: olv*' (TRI9) setrgbcolor

Input: Colorimetric Natural Reflective System CNS18

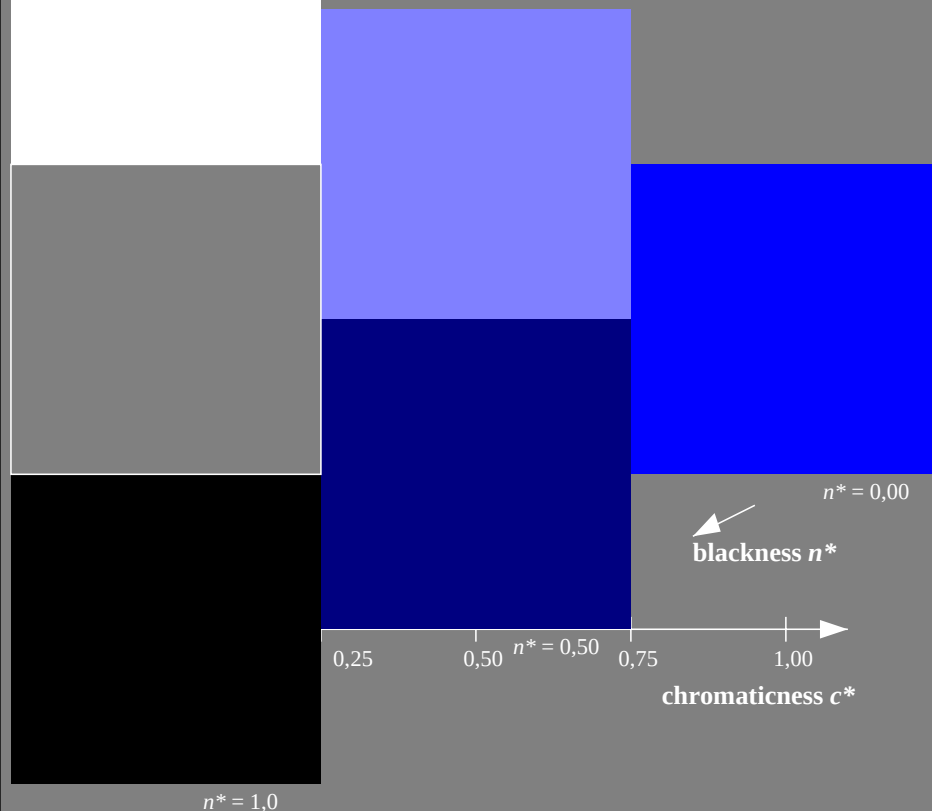
for hue $h^* = lab^*h = 272/360 = 0.756$
 lab^*tch and lab^*nch

D65: hue B
LCH*Ma: 57 77 272
olv*Ma: 0.0 0.0 1.0
triangle lightness t^*



CNS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.15	32.71	77.4	25
JMa	56.7	-2.69	77.35	77.4	92
GMa	56.7	-73.6	23.92	77.4	162
G50BMa	56.7	-71.24	-30.23	77.4	203
BMa	56.7	2.7	-77.34	77.4	272
B50RMa	56.7	63.4	-44.38	77.4	325
NMa	18.01	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

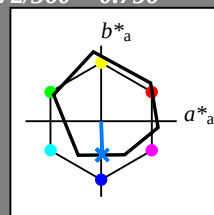
%Gamut
 $u^*_{rel} = 100$
%Regularity
 $g^*_{H,rel} = 59$
 $g^*_{C,rel} = 100$



Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 272/360 = 0.756$
 lab^*tch and lab^*nch

D65: hue V
LCH*Ma: 42 45 272
olv*Ma: 0.0 0.48 1.0
triangle lightness t^*



ORS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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

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 -0.98 4.75
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 -

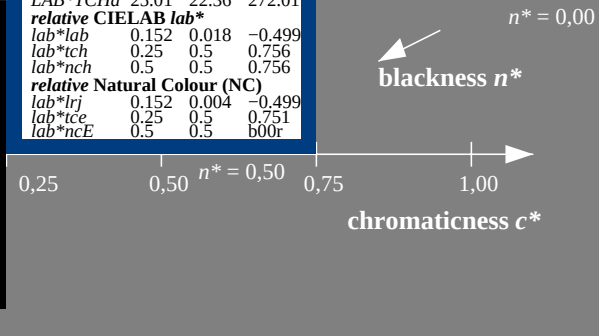
relative Inform. Technology (IT)
olvi3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olvi4* 1.0 1.0 1.0 0.5
cmyn4* 0.0 0.0 0.0 0.5
standard and adapted CIELAB
LAB*LAB 56.71 -0.24 2.14
LAB*LABa 56.71 0.0 0.0
LAB*TCHa 50.0 0.01 -
relative CIELAB lab*
lab*lab 0.5 0.0 0.0
lab*tch 0.5 0.0 -
lab*nch 0.5 0.0 -
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 18.02 0.5 -0.47
LAB*LABa 18.02 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* 0.5 0.74 1.0 (1.0)
cmyn3* 0.5 0.26 0.0 (0.0)
olvi4* 0.5 0.74 1.0 1.0
cmyn4* 0.5 0.26 0.0 0.0
standard and adapted CIELAB
LAB*LAB 68.47 0.31 -19.4
LAB*LABa 68.47 0.78 -22.34
LAB*TCHa 75.0 22.36 271.99
relative CIELAB lab*
lab*lab 0.652 0.017 -0.499
lab*tch 0.75 0.5 0.756
lab*nch 0.0 0.5 0.756
relative Natural Colour (NC)
lab*lrj 0.652 0.004 -0.499
lab*tce 0.75 0.5 0.751
lab*nce 0.0 0.5 0.00r

relative Inform. Technology (IT)
olvi3* 0.0 0.24 0.5 (1.0)
cmyn3* 1.0 0.76 0.5 (0.0)
olvi4* 0.5 0.74 1.0 0.5
cmyn4* 0.5 0.26 0.0 0.5
standard and adapted CIELAB
LAB*LAB 29.78 1.06 -22.01
LAB*LABa 29.78 0.78 -22.34
LAB*TCHa 25.01 22.36 272.01
relative CIELAB lab*
lab*lab 0.152 0.018 -0.499
lab*tch 0.25 0.5 0.756
lab*nch 0.5 0.5 0.756
relative Natural Colour (NC)
lab*lrj 0.152 0.004 -0.499
lab*tce 0.25 0.5 0.751
lab*nce 0.5 0.5 0.00r

relative Inform. Technology (IT)
olvi3* 0.0 0.481 1.0 (1.0)
cmyn3* 1.0 0.519 0.0 (0.0)
olvi4* 0.0 0.481 1.0 1.0
cmyn4* 1.0 0.519 0.0 0.0
standard and adapted CIELAB
LAB*LAB 41.54 1.61 -43.57
LAB*LABa 41.54 1.56 -44.69
LAB*TCHa 50.0 44.72 272.0
relative CIELAB lab*
lab*lab 0.304 0.035 -0.998
lab*tch 0.5 1.0 0.756
lab*nch 0.0 1.0 0.756
relative Natural Colour (NC)
lab*lrj 0.304 0.008 -0.999
lab*tce 0.5 1.0 0.751
lab*nce 0.0 1.0 0.00r



VE400-7, 3 step scales for constant CIELAB hue 272/360 = 0.756 (left)

3 step scales for constant CIELAB hue 272/360 = 0.756 (right)

BAM-test chart VE40; Colorimetric systems CNS18 & ORS18
D65: 3 step colour scales and coordinate data for 10 hues

input: olv* setrgbcolor
output: olv*' (TRI9) setrgbcolor

Input: Colorimetric Natural Reflective System CNS18

for hue $h^* = lab^*h = 325/360 = 0.903$

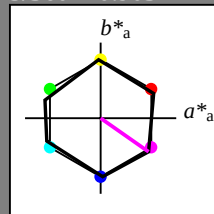
lab^*tch and lab^*nch

D65: hue B50R

LCH*Ma: 57 77 325

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 59$

$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.15	32.71	77.4	25
JMa	56.7	-2.69	77.35	77.4	92
GMa	56.7	-73.6	23.92	77.4	162
G50BMa	56.7	-71.24	-30.23	77.4	203
BMa	56.7	2.7	-77.34	77.4	272
B50RMa	56.7	63.4	-44.38	77.4	325
NMa	18.01	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

Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 325/360 = 0.903$

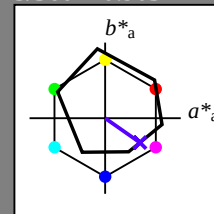
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 33 56 325

olv*Ma: 0.34 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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 -0.98 4.75
LAB*LABa 95.41 0.0 0.0
LAB*TCa 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 56.71 -0.24 2.14
LAB*LABa 56.71 0.0 0.0
LAB*TCa 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 18.02 0.5 -0.47
LAB*LABa 18.02 0.0 0.0
LAB*TCa 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* 0.669 0.5 1.0 (1.0)
cmyn3* 0.331 0.5 0.0 (0.0)
olvi4* 0.669 0.5 1.0 1.0
cmyn4* 0.331 0.5 0.0 0.0

standard and adapted CIELAB
LAB*LAB 64.35 22.62 -13.44
LAB*LABa 64.35 23.01 -16.1
LAB*TCa 75.0 28.09 325.0

relative CIELAB lab*
lab*lab 0.599 0.41 -0.286
lab*tch 0.75 0.5 0.903
lab*nch 0.0 0.5 0.903

relative Natural Colour (NC)
lab*lrj 0.599 0.338 -0.367
lab*tce 0.75 0.5 0.868
lab*nce 0.0 0.5 b47r

relative Inform. Technology (IT)
olvi3* 0.169 0.0 0.5 (1.0)
cmyn3* 0.831 1.0 0.5 (0.0)
olvi4* 0.669 0.5 1.0 0.5
cmyn4* 0.331 0.5 0.0 0.5

standard and adapted CIELAB
LAB*LAB 25.66 23.36 -16.06
LAB*LABa 25.66 23.01 -16.1
LAB*TCa 25.01 28.09 324.99

relative CIELAB lab*
lab*lab 0.099 0.409 -0.286
lab*tch 0.25 0.5 0.903
lab*nch 0.5 0.5 0.903

relative Natural Colour (NC)
lab*lrj 0.099 0.338 -0.367
lab*tce 0.25 0.5 0.868
lab*nce 0.5 0.5 b47r

relative Inform. Technology (IT)
olvi3* 0.338 0.0 1.0 (1.0)
cmyn3* 0.662 1.0 0.0 (0.0)
olvi4* 0.338 0.0 1.0 1.0
cmyn4* 0.662 1.0 0.0 0.0

standard and adapted CIELAB
LAB*LAB 33.3 46.22 -31.65
LAB*LABa 33.3 46.02 -32.21
LAB*TCa 50.0 56.18 325.0

relative CIELAB lab*
lab*lab 0.198 0.819 -0.572
lab*tch 0.5 1.0 0.903
lab*nch 0.0 1.0 0.903

relative Natural Colour (NC)
lab*lrj 0.198 0.676 -0.735
lab*tce 0.5 1.0 0.868
lab*nce 0.0 1.0 b47r

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

blackness n^*

$n^* = 0,00$

$n^* = 1,0$

VE400-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

BAM-test chart VE40; Colorimetric systems CNS18 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

input: olv* setrgbcolor

output: olv*' (TRI9) setrgbcolor

Input: Colorimetric Natural Reflective System CNS18

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

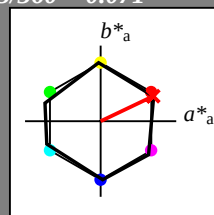
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 57 77 25

olv*Ma: 1.0 0.01 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 59$

$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.15	32.71	77.4	25
JMa	56.7	-2.69	77.35	77.4	92
GMa	56.7	-73.6	23.92	77.4	162
G50BMa	56.7	-71.24	-30.23	77.4	203
BMa	56.7	2.7	-77.34	77.4	272
B50RMa	56.7	63.4	-44.38	77.4	325
NMa	18.01	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

Output: Colorimetric Offset Reflective System ORS18

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

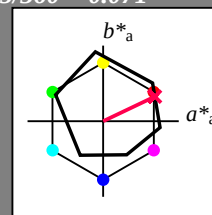
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 48 76 25

olv*Ma: 1.0 0.0 0.3

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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 -0.98 4.75
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 56.71 -0.24 2.14
LAB*LABa 56.71 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 18.02 0.5 -0.47
LAB*LABa 18.02 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* 1.0 0.5 0.652 (1.0)
cmyn3* 0.0 0.5 0.348 (0.0)
olvi4* 1.0 0.5 0.652 1.0
cmyn4* 0.0 0.5 0.348 0.0

standard and adapted CIELAB
LAB*LAB 71.7 33.66 19.45
LAB*LABa 71.7 34.19 16.29
LAB*TCHa 75.0 37.88 25.48

relative CIELAB lab*
lab*lab 0.694 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 0.694 0.5 0.009
lab*tce 0.75 0.5 0.003
lab*nce 0.0 0.5 r01j

relative Inform. Technology (IT)
olvi3* 0.5 0.0 0.152 (1.0)
cmyn3* 0.5 1.0 0.848 (0.0)
olvi4* 1.0 0.5 0.652 0.5
cmyn4* 0.0 0.5 0.348 0.5

standard and adapted CIELAB
LAB*LAB 33.01 34.4 16.84
LAB*LABa 33.01 34.19 16.3
LAB*TCHa 25.01 37.88 25.48

relative CIELAB lab*
lab*lab 0.194 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 0.194 0.5 0.009
lab*tce 0.25 0.5 0.003
lab*nce 0.5 0.5 r01j

relative Inform. Technology (IT)
olvi3* 1.0 0.0 0.304 (1.0)
cmyn3* 0.0 1.0 0.696 (0.0)
olvi4* 1.0 0.0 0.305 1.0
cmyn4* 0.0 1.0 0.695 0.0

standard and adapted CIELAB
LAB*LAB 48.0 68.31 34.14
LAB*LABa 48.0 68.38 32.59
LAB*TCHa 50.0 75.75 25.48

relative CIELAB lab*
lab*lab 0.387 0.903 0.43
lab*tch 0.5 1.0 0.071
lab*nch 0.0 1.0 0.071

relative Natural Colour (NC)
lab*lrj 0.387 1.0 0.018
lab*tce 0.5 1.0 0.003
lab*nce 0.0 1.0 r01j

$n^* = 0.00$

blackness n^*

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

chromaticness c^*

$n^* = 1,0$

$n^* = 0.00$

blackness n^*

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

chromaticness c^*

$n^* = 1,0$

VE400-7, 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 VE40; Colorimetric systems CNS18 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: olv* setrgbcolor

output: olv*' (TRI9) setrgbcolor

Input: Colorimetric Natural Reflective System CNS18

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

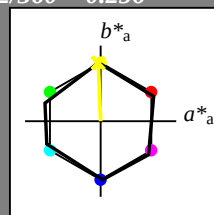
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 57 77 92

olv*Ma: 0.99 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 59$

$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.15	32.71	77.4	25
JMa	56.7	-2.69	77.35	77.4	92
GMa	56.7	-73.6	23.92	77.4	162
G50BMa	56.7	-71.24	-30.23	77.4	203
BMa	56.7	2.7	-77.34	77.4	272
B50RMa	56.7	63.4	-44.38	77.4	325
NMa	18.01	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

Output: Colorimetric Offset Reflective System ORS18

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

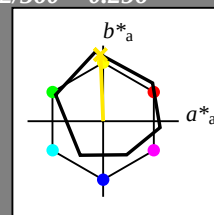
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 87 88 92

olv*Ma: 1.0 0.91 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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 -0.98 4.75
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 56.71 -0.24 2.14
LAB*LABa 56.71 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 18.02 0.5 -0.47
LAB*LABa 18.02 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* 1.0 0.956 0.5 (1.0)
cmyn3* 0.0 0.044 0.5 (0.0)
olvi4* 1.0 0.956 0.5 1.0
cmyn4* 0.0 0.044 0.5 0.0

standard and adapted CIELAB
LAB*LAB 91.01 -2.68 48.5
LAB*LABa 91.01 -1.78 44.04
LAB*TCHa 75.0 44.08 92.32

relative CIELAB lab*
lab*lab 0.943 -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 0.943 -0.004 0.5
lab*tce 0.75 0.5 0.252
lab*nce 0.0 0.5 j00g

relative Inform. Technology (IT)
olvi3* 0.5 0.456 0.0 (1.0)
cmyn3* 0.5 0.544 1.0 (0.0)
olvi4* 1.0 0.956 0.5 0.5
cmyn4* 0.0 0.044 0.5 0.5

standard and adapted CIELAB
LAB*LAB 52.31 -1.93 45.89
LAB*LABa 52.31 -1.77 44.04
LAB*TCHa 25.01 44.07 92.31

relative CIELAB lab*
lab*lab 0.443 -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 0.443 -0.004 0.5
lab*tce 0.25 0.5 0.252
lab*nce 0.5 0.5 j00g

relative Inform. Technology (IT)
olvi3* 1.0 0.911 0.0 (1.0)
cmyn3* 0.0 0.089 1.0 (0.0)
olvi4* 1.0 0.911 0.0 1.0
cmyn4* 0.0 0.089 1.0 0.0

standard and adapted CIELAB
LAB*LAB 86.6 -4.37 92.24
LAB*LABa 86.6 -3.55 88.08
LAB*TCHa 50.0 88.15 92.32

relative CIELAB lab*
lab*lab 0.886 -0.039 0.999
lab*tch 0.5 1.0 0.256
lab*nch 0.0 1.0 0.256

relative Natural Colour (NC)
lab*lrj 0.886 -0.009 1.0
lab*tce 0.5 1.0 0.252
lab*nce 0.0 1.0 j00g

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 18.02 0.5 -0.47
LAB*LABa 18.02 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* 0.5 0.456 0.0 (1.0)
cmyn3* 0.5 0.544 1.0 (0.0)
olvi4* 1.0 0.956 0.5 0.5
cmyn4* 0.0 0.044 0.5 0.5

standard and adapted CIELAB
LAB*LAB 52.31 -1.93 45.89
LAB*LABa 52.31 -1.77 44.04
LAB*TCHa 25.01 44.07 92.31

relative CIELAB lab*
lab*lab 0.443 -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 0.443 -0.004 0.5
lab*tce 0.25 0.5 0.252
lab*nce 0.5 0.5 j00g

BAM-test chart VE40; Colorimetric systems CNS18 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

input: olv* setrgbcolor

output: olv*' (TRI9) setrgbcolor

Input: Colorimetric Natural Reflective System CNS18

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

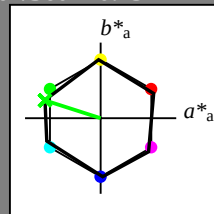
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 57 77 162

olv*Ma: 0.0 1.0 0.01

triangle lightness t^*



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 59$

$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.15	32.71	77.4	25
JMa	56.7	-2.69	77.35	77.4	92
GMa	56.7	-73.6	23.92	77.4	162
G50BMa	56.7	-71.24	-30.23	77.4	203
BMa	56.7	2.7	-77.34	77.4	272
B50RMa	56.7	63.4	-44.38	77.4	325
NMa	18.01	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

Output: Colorimetric Offset Reflective System ORS18

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

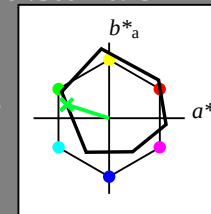
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 53 59 162

olv*Ma: 0.0 1.0 0.21

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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 -0.98 4.75
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 56.71 -0.24 2.14
LAB*LABa 56.71 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 18.02 0.5 -0.47
LAB*LABa 18.02 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* 0.5 1.0 0.606 (1.0)
cmyn3* 0.5 0.0 0.394 (0.0)
olvi4* 0.5 1.0 0.607 1.0
cmyn4* 0.5 0.0 0.393 0.0

standard and adapted CIELAB
LAB*LAB 73.97 -28.52 12.27
LAB*LABa 73.97 -27.94 8.96
LAB*TCHa 75.0 29.35 162.23

relative CIELAB lab*
lab*lab 0.723 -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 0.723 -0.498 0.024
lab*tce 0.75 0.5 0.492
lab*nce 0.0 0.5 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.106 (1.0)
cmyn3* 1.0 0.5 0.894 (0.0)
olvi4* 0.5 1.0 0.606 0.5
cmyn4* 0.5 0.0 0.394 0.5

standard and adapted CIELAB
LAB*LAB 35.28 -27.78 9.67
LAB*LABa 35.28 -27.95 8.97
LAB*TCHa 25.01 29.36 162.21

relative CIELAB lab*
lab*lab 0.223 -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 0.223 -0.498 0.024
lab*tce 0.25 0.5 0.492
lab*nce 0.5 0.5 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.213 (1.0)
cmyn3* 1.0 0.0 0.787 (0.0)
olvi4* 0.0 1.0 0.213 1.0
cmyn4* 1.0 0.0 0.787 0.0

standard and adapted CIELAB
LAB*LAB 52.54 -56.06 19.79
LAB*LABa 52.54 -55.9 17.93
LAB*TCHa 50.0 58.71 162.22

relative CIELAB lab*
lab*lab 0.446 -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 0.446 -0.998 0.048
lab*tce 0.5 1.0 0.492
lab*nce 0.0 1.0 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.106 (1.0)
cmyn3* 1.0 0.5 0.894 (0.0)
olvi4* 0.5 1.0 0.606 0.5
cmyn4* 0.5 0.0 0.394 0.5

standard and adapted CIELAB
LAB*LAB 35.28 -27.78 9.67
LAB*LABa 35.28 -27.95 8.97
LAB*TCHa 25.01 29.36 162.21

relative CIELAB lab*
lab*lab 0.223 -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 0.223 -0.498 0.024
lab*tce 0.25 0.5 0.492
lab*nce 0.5 0.5 0.96g

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.213 (1.0)
cmyn3* 1.0 0.0 0.787 (0.0)
olvi4* 0.0 1.0 0.213 1.0
cmyn4* 1.0 0.0 0.787 0.0

standard and adapted CIELAB
LAB*LAB 52.54 -56.06 19.79
LAB*LABa 52.54 -55.9 17.93
LAB*TCHa 50.0 58.71 162.22

relative CIELAB lab*
lab*lab 0.446 -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 0.446 -0.998 0.048
lab*tce 0.5 1.0 0.492
lab*nce 0.0 1.0 0.96g

BAM-test chart VE40; Colorimetric systems CNS18 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

input: olv* setrgbcolor

output: olv*' (TRI9) setrgbcolor

Input: Colorimetric Natural Reflective System CNS18

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

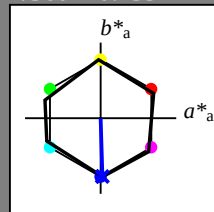
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 57 77 272

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 100$

%Regularity

$g^*_{H,rel} = 59$

$g^*_{C,rel} = 100$

CNS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.15	32.71	77.4	25
JMa	56.7	-2.69	77.35	77.4	92
GMa	56.7	-73.6	23.92	77.4	162
G50BMa	56.7	-71.24	-30.23	77.4	203
BMa	56.7	2.7	-77.34	77.4	272
B50RMa	56.7	63.4	-44.38	77.4	325
NMa	18.01	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

Output: Colorimetric Offset Reflective System ORS18

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

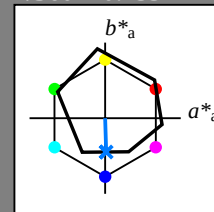
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 42 45 272

olv*Ma: 0.0 0.48 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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
 $LAB^*LAB = 95.41 \ -0.98 \ 4.75$
 $LAB^*LABa = 95.41 \ 0.0 \ 0.0$
 $LAB^*TCHa = 99.99 \ 0.01 \ -$

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
 $LAB^*LAB = 56.71 \ -0.24 \ 2.14$
 $LAB^*LABa = 56.71 \ 0.0 \ 0.0$
 $LAB^*TCHa = 50.0 \ 0.01 \ -$

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
 $LAB^*LAB = 18.02 \ 0.5 \ -0.47$
 $LAB^*LABa = 18.02 \ 0.0 \ 0.0$
 $LAB^*TCHa = 0.01 \ 0.01 \ -$

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)
 $olvi3^* = 0.5 \ 0.742 \ 1.0 \ (1.0)$
 $cmyn3^* = 0.5 \ 0.258 \ 0.0 \ (0.0)$
 $olvi4^* = 0.5 \ 0.742 \ 1.0 \ 1.0$
 $cmyn4^* = 0.5 \ 0.258 \ 0.0 \ 0.0$

standard and adapted CIELAB
 $LAB^*LAB = 68.53 \ 0.2 \ -19.4$
 $LAB^*LABa = 68.53 \ 0.68 \ -22.34$
 $LAB^*TCHa = 75.0 \ 22.36 \ 271.73$

relative CIELAB lab*
 $lab^*lab = 0.653 \ 0.015 \ -0.499$
 $lab^*tch = 0.75 \ 0.5 \ 0.755$
 $lab^*nch = 0.0 \ 0.5 \ 0.755$

relative Natural Colour (NC)
 $lab^*lrj = 0.653 \ 0.002 \ -0.499$
 $lab^*tce = 0.75 \ 0.5 \ 0.751$
 $lab^*nce = 0.0 \ 0.5 \ b00r$

relative Inform. Technology (IT)
 $olvi3^* = 0.0 \ 0.242 \ 0.5 \ (1.0)$
 $cmyn3^* = 1.0 \ 0.758 \ 0.5 \ (0.0)$
 $olvi4^* = 0.5 \ 0.742 \ 1.0 \ 0.5$
 $cmyn4^* = 0.5 \ 0.258 \ 0.0 \ 0.5$

standard and adapted CIELAB
 $LAB^*LAB = 29.83 \ 0.95 \ -22.01$
 $LAB^*LABa = 29.83 \ 0.68 \ -22.34$
 $LAB^*TCHa = 25.01 \ 22.36 \ 271.75$

relative CIELAB lab*
 $lab^*lab = 0.153 \ 0.015 \ -0.499$
 $lab^*tch = 0.25 \ 0.5 \ 0.755$
 $lab^*nch = 0.5 \ 0.5 \ 0.755$

relative Natural Colour (NC)
 $lab^*lrj = 0.153 \ 0.002 \ -0.499$
 $lab^*tce = 0.25 \ 0.5 \ 0.751$
 $lab^*nce = 0.5 \ 0.5 \ b00r$

relative Inform. Technology (IT)
 $olvi3^* = 0.0 \ 0.484 \ 1.0 \ (1.0)$
 $cmyn3^* = 1.0 \ 0.516 \ 0.0 \ (0.0)$
 $olvi4^* = 0.0 \ 0.484 \ 1.0 \ 1.0$
 $cmyn4^* = 1.0 \ 0.516 \ 0.0 \ 0.0$

standard and adapted CIELAB
 $LAB^*LAB = 41.65 \ 1.4 \ -43.56$
 $LAB^*LABa = 41.65 \ 1.36 \ -44.69$
 $LAB^*TCHa = 50.0 \ 44.72 \ 271.74$

relative CIELAB lab*
 $lab^*lab = 0.305 \ 0.03 \ -0.998$
 $lab^*tch = 0.5 \ 1.0 \ 0.755$
 $lab^*nch = 0.0 \ 1.0 \ 0.755$

relative Natural Colour (NC)
 $lab^*lrj = 0.305 \ 0.005 \ -0.999$
 $lab^*tce = 0.5 \ 1.0 \ 0.751$
 $lab^*nce = 0.0 \ 1.0 \ b00r$

relative Inform. Technology (IT)
 $olvi3^* = 0.0 \ 0.242 \ 0.5 \ (1.0)$
 $cmyn3^* = 1.0 \ 0.758 \ 0.5 \ (0.0)$
 $olvi4^* = 0.5 \ 0.742 \ 1.0 \ 0.5$
 $cmyn4^* = 0.5 \ 0.258 \ 0.0 \ 0.5$

standard and adapted CIELAB
 $LAB^*LAB = 29.83 \ 0.95 \ -22.01$
 $LAB^*LABa = 29.83 \ 0.68 \ -22.34$
 $LAB^*TCHa = 25.01 \ 22.36 \ 271.75$

relative CIELAB lab*
 $lab^*lab = 0.153 \ 0.015 \ -0.499$
 $lab^*tch = 0.25 \ 0.5 \ 0.755$
 $lab^*nch = 0.5 \ 0.5 \ 0.755$

relative Natural Colour (NC)
 $lab^*lrj = 0.153 \ 0.002 \ -0.499$
 $lab^*tce = 0.25 \ 0.5 \ 0.751$
 $lab^*nce = 0.5 \ 0.5 \ b00r$

relative Inform. Technology (IT)
 $olvi3^* = 0.0 \ 0.484 \ 1.0 \ (1.0)$
 $cmyn3^* = 1.0 \ 0.516 \ 0.0 \ (0.0)$
 $olvi4^* = 0.0 \ 0.484 \ 1.0 \ 1.0$
 $cmyn4^* = 1.0 \ 0.516 \ 0.0 \ 0.0$

standard and adapted CIELAB
 $LAB^*LAB = 41.65 \ 1.4 \ -43.56$
 $LAB^*LABa = 41.65 \ 1.36 \ -44.69$
 $LAB^*TCHa = 50.0 \ 44.72 \ 271.74$

relative CIELAB lab*
 $lab^*lab = 0.305 \ 0.03 \ -0.998$
 $lab^*tch = 0.5 \ 1.0 \ 0.755$
 $lab^*nch = 0.0 \ 1.0 \ 0.755$

relative Natural Colour (NC)
 $lab^*lrj = 0.305 \ 0.005 \ -0.999$
 $lab^*tce = 0.5 \ 1.0 \ 0.751$
 $lab^*nce = 0.0 \ 1.0 \ b00r$

BAM-test chart VE40; Colorimetric systems CNS18 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

input: olv* setrgbcolor

output: olv*' (TRI9) setrgbcolor